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VOLUME VII.

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# Interstate Medical Journal

A MONTHLY MAGAZINE OF MEDICINE AND SURGERY.

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### COCAINE ANESTHESIA FOR CAPITAL OPERATIONS.

The very latest advance in surgical departures is the injection of cocaine into the spinal canal, thereby bringing about a more or less complete anesthesia of the lower extremities and of the pelvic organs. Favorable results have been obtained in this way by Tuffier of Paris, Matas of New Orleans, and others. These men say that complete anesthesia is induced, that there is no danger in the operation, if performed properly, and that all of the dangers attending the administration of a general anesthetic like ether or chloroform are done away with. Let us hope that their observations will be confirmed by others; for this is a simple, an effective, and, we trust, a harmless procedure.

### THE DIAGNOSIS OF RENAL TUBERCULOSIS.

The diagnosis of renal tuberculosis has been, in the past, a task fraught with almost insurmountable difficulties. Even with the advent of the microscope as a diagnostic aid under such conditions, the state of affairs in this direction was not much improved, owing to the great difficulty microscopists experienced in positively finding the tubercle bacillus in the urine of patients with tuberculous disease of the kidneys. It is absolutely necessary to have the urine centrifugalized in order to search for the bacillus in the first place. Even with a high degree of centrifugalization, it is but seldom that we find the tubercle bacillus, after all. There may be none present; there may be some present but in such small quantity that with the ordinary means at our command we cannot find them.



Happily, we now seem to have in the inoculation of guinea-pigs with the sediment of the urine from such patients a means of positively diagnosing the condition, if it is present. The method of procedure is to centrifugalize the urine, inoculate two guinea-pigs in the anterior abdominal wall with this sediment, and after keeping the pigs for a month, killing them and demonstrating by macroscopic and microscopic means the existence of a generalized tuberculosis. This is a good method and, what is more to the point, a practical one, within the reach of any one with the most limited facilities for laboratory work at his command.

### THE ROLE OF THE THYMUS GLAND.

The thymus gland is an organ about which much has been written—mostly, however, in a speculative way. It is quite refreshing to occasionally hear that something definite has been arrived at in the direction of ascertaining its true function or functions, if it has any. From general work on this subject we can say that it is an organ which has double functions. It is a hematopoietic organ. It is a gland which has an internal secretion. This secretion has a considerable part to perform in the nutrition of the organism. If there is a pathologic insufficiency of this secretion, then we see inanition, cachexia, etc., in the subject. Again, we see a state of hyperthymisation which is pathologic. Like nearly all the other organs of the body, a normal equilibrium is what constitutes a condition of health and well-being; when the balance swerves one way or the other, we see disease.

### SUGGESTIVE THERAPEUTICS.

A great deal is being done now by workers in the field of suggestive therapeutics. When this form of treatment was first proposed to the profession, skepticism was so great about it that its most ardent supporters did not hope to impress its good qualities upon the working profession. Things have come to such a pass now, however, that to the intelligent physician a brilliant field of work is laid out for him in this line, and he sees in many cases a prospect of effecting cures when other medicaments would positively fail, for the very reason that suggestion is in order—*e. g.*, where the malady is more mental than bodily, and where there is really no ailment at all. We do not mean to say that in cases of neurasthenia, where suggestion often works wonders, that there is no real trouble, but we mean to say that in a disease of that kind, the application of the principles of suggestive therapeutics will influence the condition with which we are dealing for the better. The question has been raised that if we once influence a patient's mind with a suggestion, that in order to continue to better his condition we must have more suggestions at our command; or, in other words, that the impression must be kept up forever and ever, else the patient will lapse into the original state. This is entirely erroneous, however. The object of our suggestive therapeutics is to better the condition of the patient until he is in a state of mental equilibrium, when he will no longer need suggestion to buoy him up.

### IS BILE AN ANTISEPTIC FLUID?

Writing under the above caption, we can emphatically answer the query, "Is bile an antiseptic fluid?" by saying that *it is not*. There is a wide-spread erroneous impression among many members of the profession, engendered, it is true, by false teachings of the older physiologists, that bile possesses marked antiseptic properties amounting to those possessed by the chemicals of inorganic and organic nature used by the quarantine authorities in their technical work. This erroneous impression can be refuted by the simple observations of men who have time and again demonstrated different pathogenic and non-pathogenic bacteria in the gall-bladder in both the living and the dead subject. Consider for a moment the frequency of the findings, in the case of gall-stones and cholecystitis, of both the colon and the typhoid bacilli, and then imagine, if you can, such a thing as an "antiseptic bile!" It is now accepted as a fact that the typhoid bacillus very frequently invades the gall-bladder and liver after an attack of typhoid fever. If the bile possessed properties of any antiseptic power at all, then surely would the growth of such a weak micro-organism as the typhoid bacillus be inhibited and the life of the germ ultimately destroyed. From these findings it is but fair to assume that the bile in man is not an antiseptic fluid.

### THE ENACTMENT OF BETTER MEDICAL LAWS FOR THE STATE OF MISSOURI.

A call for the organization of a "district medical society" was lately issued in this city, and as a result the "St. Louis District Medical Society" was organized at the Southern Hotel in this city, on December 19, 1899. It comprises representatives from St. Louis, and from the twenty outlying counties. A constitution was drafted by a committee of three, embodying briefly the objects for the organization of this society. The objects of this body are the promotion of medical science and of medical ethics; its other object is *to secure such legislation as will tend to extirpate all forms of quackery which now flourish in this State, under existing laws.*

The members present were very enthusiastic in their idea to secure better legislation, and we bespeak good results to follow from this nucleus. Each physician has a small circle of patients whom he can influence, and this is especially true of the country doctor. Therefore, if each doctor secures from the candidates for the State legislature a written pledge that that candidate will support a bill looking for the abolition of quackery in all forms, particularly osteopathy and Christian Science, then will the practice of medicine be what it should be—*i. e.*, confined to those who have been trained for it, and not open to every charlatan who wishes to pose as a doctor, as the situation now is. The object of this association is a good one, and will surely redound creditably to its organizers and supporters.

### THE ELEMENTS OF SUCCESS.

Conduct, as a general thing, is virtuous as environment makes it. The proper conduct of a Kaffir would be criminal in a civilized country.



The advice of a Kant is beautiful; and where applied would indeed smoothe the rugged face of conduct and turn it heavenwards. He says: "Act always so that the immediate motive of thy will may become a universal rule for all intelligent beings." The doctor is as human as any other man; his hopes, desires and aims, professionally, are to be successful. His conduct has been a subject which has received unlimited attention, and bears with it to-day the tenets of a past, the property of the present, and improvement for the future. The doctor, like all other men, desires to be successful; and success with him, the same as with other men, depends more on character than on intellect. Strength of will, tact, and judgment are a good combination; but they are not always joined, for there seems to be an eternal disparity between merit and success; and in no vocation is this plainer shown than in medicine. First, above all, the doctor should be a gentleman; a thing, according to the best standards, not always easy. It is a pity; but, unless they are born so, they rarely ever are. Notice how Cardinal Newman paints him. He says:

"It is almost a definition of a gentleman to say he is one who never inflicts pain. \* \* \* He carefully avoids whatever may cause a jar or a jolt in the minds of those with whom he is cast—all clashing of opinion or collision of feeling, all restraint, or suspicion, or gloom, or resentment; his great concern being to make every one at ease, at home. He has his eyes on all his company. He is tender towards the bashful, gentle towards the distant, and merciful towards the absurd. He can recollect to whom he is speaking, he guards against unreasonable allusions or topics that may irritate. He is seldom prominent in conversation and never wearisome. He makes light of favors when he does them. He never speaks of himself except when compelled; never defends himself by a mere retort. He has no ears for slander or gossip, is cautious in imputing motives to those who interfere with him and interprets everything for the best. He is never mean or little in his disputes, never takes an unfair advantage, never mistakes personalities or sharp sayings for arguments, or insinuates evil which he dare not say out. \* \* \* He has too much good sense to be affronted at insult, he is too busy to remember injuries, and too indolent to bear malice. \* \* \* If he engages in controversy of any kind his disciplined intellect preserves him from the blundering discourtesy of better though less educated minds who, like blunt weapons, tear and hack instead of cutting clean. He may be right or wrong in his opinion, but he is too clear headed to be unjust. He is as simple as he is forcible, and as brief as he is decisive. Nowhere shall we find greater candor, consideration or indulgence. He throws himself into the minds of his opponents, he accounts for their mistakes. He knows the weakness of human nature as well as its strength, its province, and its limits."

Perhaps such characters may not be plentiful among the doctors; but still they are found equally as good as this. The influence of vocation is a profound thing, and as such, in the medical profession, creates a character admirable—a perfect human gentleman. To be a gentleman a man must be of character. The physician, in the nature of his vocation, creates more or less strength and tenacity of will; but strength of will does not imply tact. But the doctor, to be ordinarily successful, must cultivate tact, although tact, like manners, is not born with us. That capacity to do the right thing at the right time is certainly one of the most valuable gifts. Good nature is certainly a most pleasant flavor in character, and particularly so in the calling of the physician. It conciliates the petulant and removes the rugged elements to be conquered. Any physician lacking in tact and good nature, even if brilliant, will face doubtful success. Tact



and good nature lend to cheerfulness in surroundings. That physician who can gain his point and yet never appear to be antagonistic, certainly has a strong lever to success. Upon the whole, a man who can be the perfect gentleman, as depicted by Cardinal Newman, will, indeed, possess the elements of making a successful man; and in no vocation are such elements more needed than in medicine. The blending of character with tact, good nature, and good judgment are true elements of success, even if not accompanied with the best of intellect.

### AN ANALYSIS OF LAZINESS.

M. De Fleury has contributed to the world, through the *Paris Figaro*, some thoughts upon laziness. He refers especially to those intellectual workers who are fitfully energetic, who are spurters, who display now and then tremendous energy and then collapse into profound inertia; those sky-rocket characters who sputter and scintillate heavenward with tremendous energy, to only fall downwards like a smoked stick. Such persons generally fall into remorseful states, owing to a failure of their continuity; their inactivity is not a result of moral hebetude, but an actual infirmity. He divides lazy persons into the unwilling, the passive, and hopeless; those persons as lazy as Ludlam's dog, that leaned his head against the wall to bark, are hopeless and incurable. From what M. De Fleury says we would conclude that laziness is a mild chronic neurasthenic state—a congenital neurosis, wherein the will, from inherited inertia and spontaneity, acts in sporadic fits of activity. The *London Speaker* says:

“The writer is very consoling, at least, to the moral sense of those persons, for he attributes their state not so much to moral as to physical infirmity, to that malady newly named—though not new except in its alleged special prevalence at the present day—neurasthenia; and he thinks such laziness can be cured. (Laziness, it will be seen, is a bad word here, and so is indolence, for it does not imply quite what is meant, but it must be used for want of a better.) Lazy persons are almost always neuropaths, and nervous maladies are simply evil habits of the cerebral activity; to cure, then, the curably (that is, the unwillingly) lazy—for the vast category of the willing, or passive, are hopeless—it becomes simply a question of giving the brain better habits, a process which may be helped, in certain cases, by giving it better nourishment. The writer likens the intellectual workers of intermittent energies—the fitful professors, savants, artists, writers, and so forth—to those cab-touts who hang around railway stations all day, doing nothing, but who, when the trains arrive, put forth tremendous powers of exertion, and follow a cab for miles on the chance of getting a job of carrying enormous trunks upstairs. The spurt proves the existence of latent energy; if this energy could be but employed systematically from day to day, instead of being used up in violent and irregular efforts, there would be more of it available, the cerebral functions would be performed more healthily, and the general system, instead of being dislocated and thrown out of gear, would be strengthened. To put the matter in another way, one of the cardinal symptoms of neurasthenia is incapacity for prolonged labor, and this comes of an ex-

haustion of the brain cells, resulting in fatigue of the whole organism, "atony" of the attention, and relaxation of the will. You cure neurasthenia by regularizing and facilitating—by means of a combined course of physical hygiene and moral discipline—"the processes of cellular integration and disintegration;" and what cures the neurasthenia will generally cure the laziness which is so often but one of its symptoms."

### RADIUM.

Radium is the last and the newest of recently discovered chemical elements. Whilst it has not shown any great virtue, yet still it is replete with predictions of great value on account of an invisible radiance which it gives forth, and which it is thought will furnish a more valuable, convenient and economical agent for surgical explorations than the Roentgen rays. M. and Mme. Curie began its investigation in 1898. By experimenting with pitchblende, the mineral from which uranium is obtained commercially, M. and Mme. Curie found that the former yielded the same effect much more conspicuously. This led them to suspect that they were on the track of a new element. They even went so far as to name it provisionally, although much difficulty was experienced in separating it from the substances with which it was associated. Just before the close of the year, with the co-operation of M. Bemont, they obtained indications of still another new element. The first they called 'polonium' and the second 'radium.' Polonium is believed to surpass uranium and its salts in emissive power five hundredfold, but Professor Barker estimates the efficiency of radium at one hundred thousand times that of uranium. For this reason, and because of its comparative cheapness and simplicity, the second of the Curies' discoveries seems destined to replace the costly and complicated X-ray apparatus in the realm of surgery. One important distinction is to be noted between the behavior of the Crookes tube and that trait of radium which is now for the first time being exploited in this country. The practicability of deriving one form of energy—heat, light, electricity or chemical action—from some other has long been recognized, but it is axiomatic that none of them can be produced except by that method. It is believed that the most man can do is to transform. It is thought that he cannot, in any true sense, create. Roentgen obtained his X-rays only by a conversion of force previously existing in the form of electricity. But a radiance which will penetrate opaque bodies and act upon the chemicals on a photographic plate is secured from radium without the apparent use of any known species of energy. The phenomenon may yet be explained, but at present it looks very much like what has long been regarded an impossibility—the spontaneous generation of force.

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### A NEW EXPLANATION FOR AN OLD PROVERB.

"I wept when I was born and every day shows why."

Naturally his lachrymal glands were born weak, couldn't help but cry.



# CLINICAL LECTURE.

## A CLINICAL LECTURE.<sup>1</sup>

BY GEORGE L. PEARODY, M. D., of New York City,  
Visiting Physician, New York and Roosevelt Hospitals.

CASE 1.—*Gas Poisoning, Followed by Pneumonia and Acute Parotiditis.*—This woman is thirty-seven years of age, a widow, a native of England, who lost her father and mother, both dying from heart disease, the former at the age of seventy-five, the latter at the age of forty-seven.

She has had no children and no miscarriages.

You will see that this history of heredity has no bearing upon the case at all; yet, do not ever overlook the history of age, occupation, family history, preceding history antedating the disease; it is extremely important that this should not be neglected, and if it is neglected you will find occasion to regret it. Such careful history-taking might be the means of clearing up doubtful and otherwise impossible diagnoses. All the organs and the urine should be examined in every case. If a man comes to you complaining of gout in his right foot, it seems to me that it would be irrelevant to listen to his heart; yet it is important that you should examine the different organs.

She has always enjoyed fair health. She gives no history of a sore or suppuration from any source. She drinks beer and wine. On October 24th she went to bed as usual. In the morning she was found unconscious, partly dressed and lying upon the bed. The window was closed and there was an odor of gas in the room, escaping from one or two gas jets. She was brought to the hospital by an ambulance. She could give no accurate account of the accident. She was admitted to the hospital at 10 P. M., probably twenty-four hours after the beginning of the accident. Her temperature was 100.8°, and her respirations were twenty-four. The patient was in a pretty deep stupor from which she could be partly aroused. Her tongue was dry, coated, and fissured. Her heart, lungs, spleen, and liver were examined and found to be normal. Her extremities were normal. This was on October 25th, nine days ago. Her condition then was not such as called for treatment for gas poisoning. If the pulse is feeble, treat that or other symptoms that call for attention. In these cases of gas poisoning in general, when we find they have recovered consciousness no treatment is needed. Probably there is a sudden and abundant supply of poison for which there is not much of an outlet except from the lungs; this gas exerts a damaging effect upon the blood which may be permanent.

The next morning when the house-physician made his rounds there was found a temperature of 103°, and there were some disturbances of respiration—Cheyne-Stokes in character and quite rapid. The chest was examined again and there was ascertained obvious signs of consolidation over the lower lobe of the right lung. There was a little dullness, bron-

<sup>1</sup> Held at the New York Hospital, November 4, 1899.



chial breathing, and rales. Now, after a few days of continued symptoms a gradual resolution began; there was no crisis. The temperature remained, running from  $100^{\circ}$  to  $102^{\circ}$  or  $103^{\circ}$ , but always above  $101^{\circ}$ ; there was no crisis but a gradual subsidence of physical signs with no trace of consolidation except the rales. She has had no stupor at all. This is a good illustration of pulmonary consolidation of an actual pneumonia where the diffused products in the air vesicles may be carried away by the lymphatics without being coughed up at all. It is to that fact that I want to call attention.

After having been in here nearly a week, *i. e.*, on October 30th, she began to complain of soreness at the angle of her jaw. There was found a little swelling over the left tonsil and some tenderness in the left parotid region. The next day the area of the left parotid region was found to be indurated and distinctly red, hard, tender and painful, and she could separate her teeth but very little. We have watched the parotid region with a good deal of apprehension, but there has been no material change except it has become more hard and tender. The parts were dressed with carbolic lotion, 1-60 solution, applied on a cheese cloth and covered with gutta-percha tissue; since then there has been a slight improvement in the induration, tenderness and pain, with a gradual subsidence of these symptoms, and she is now better. There has been at no time fluctuation or evidences of suppuration which could be distinguished. But, now, at this point where my finger is, which is just beneath the lobe of the ear, there is to be found a very minute white point, so small that unless you had a good light you could not see it; it is very small but it gives fluctuation. It may be a superficial fluctuation at the present time. We are hoping by the application of carbolic acid to cause resolution. Now, what is the connection between these two sequelæ of gas poisoning? It is, in all probability, a streptococcus inflammation which caused the pulmonary condition and which is now causing this present complication. People who suffer from coma from any cause are likely to inhale material that ought not to go down. Sometimes there is an inhalation of the bacteria of infection, which may be followed by pulmonary gangrene. When a case of pulmonary gangrene is met with, always find out if the patient had been unconscious. The inference is that this is a streptococcus inflammation, that this parotid inflammation—a distinct parotiditis—is a streptococcus inflammation which may have had its origin in the mouth or in the pharynx or the tonsils, setting up an inflammation of the parotid gland by way of Steno's duct. Remember, in typhoid fever, to keep the mouth clean, and for this same reason. On the other hand, the inflammation may have proceeded from the blood and not from the mouth, but from the lung through the blood. It does not seem to me that it is likely to be the latter condition, for we then should have a more serious condition and other evidences besides this one. There are no evidences of general sepsis, and so it is more likely that the parotiditis has been set up by infection through the duct of Steno. The occurrence of parotiditis is not without danger, and it is this condition which necessarily excites apprehension. Sometimes spreading from it we have what is called angina Ludovici, which is really a cellulitis of the deeper tissues of the neck, and which is apt to come on with very great violence and suddenness, and interferes

with respiration by the sudden œdema and swelling about the glottis, and the pressure effects, etc. With immediate surgical interference the outlook is good. Another condition to be thought of is thrombosis. There may be thrombi of septic character, and the consequence of their lodgment I need not now take up your time with. Another possibility to be thought of is general sepsis developing secondarily to this. All of those conditions we hope to avoid, and we feel fairly justified in believing that the symptoms and the intensity of the physical signs have abated under the use of carbolic acid. This is used in weak solution, because carbolic acid is absorbed through the unbroken skin. I have seen the application of a solution of carbolic acid in a 1-40 strength result in poisoning. I have seen in an emissary of the board of health a carbolic acid bottle broken in the pocket and so producing poisoning. The urine in this instance has shown us nothing. This case is then primarily one of gas poisoning, with secondary development of pneumonia, and, following that, acute parotiditis on the left side.

I wish to refer to a case seen here last year by many of you. The case was that of a man who had had repeated hemorrhages. He had twelve hemorrhages a day, and we had to apply serum artificially. I met that same man a few weeks ago, and he appeared strong and well, and he came up and reminded me of his condition. It is interesting to know that men can recover from such serious conditions.

November 11th.—This woman I showed you last week. She was admitted to the hospital suffering from coal-gas poisoning. The morning following, consolidation of the right lower lobe was discovered. At the end of a week she developed a parotiditis on the left side. The parts were dressed with a compress wet with a solution of carbolic acid which was covered with gutta-percha tissue. Since last week you will see that the parotiditis has subsided very markedly. She is now convalescent with but one single point, just below the ear, which fluctuates, and shows a superficial collection of pus, about three-fourths to one-half an inch in diameter. The parotid region is red from the application of the carbolic acid lotion. The swelling has almost disappeared. The area about this local suppuration is quite hard, but it will disappear in the course of a short time.

Last week I told you that this was probably a streptococcic inflammation; the same, in all probability, that caused the pulmonary condition. This, no doubt, had its origin in the mouth, or in the pharynx, or the tonsils, setting up an inflammation of the parotid gland by way of Steno's duct.

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### GOOD ADVICE.

A wise physician is more than armies to the public weal,  
 Render this public a bill, then 'tis otherwise how this public feel;  
 A physician is an angel when employed, a devil when he's to pay—  
 Better be a thrifty devil, than a starving angel, with only an æolian harp to play;  
 Collect your fees, get the money sure, then let public opinion roar and soar,  
 For without money in this world physicians soon become angels evermore.



# ORIGINAL ARTICLES.

## SOME SUGGESTIONS IN THE CARE OF THE TUBERCULAR.<sup>1</sup>

BY WILLIAM PORTER, A. M., M. D., of St. Louis, Missouri.

Professor of Physical Diagnosis and Diseases of the Chest, Beaumont Medical College;  
Physician to St. Luke's; to the Protestant Hospital; to St. Joseph's; Consulting  
Physician to the City Hospital, Etc.

THE object I have in accepting the kind invitation of your secretary is to recall to you some practical suggestions in the care of tuberculosis. It is not many years since any hopeful thought upon this subject was considered, by most of the profession, as Utopian. There are two estimates that I would place over against each other. One is that of the 70,000,000 people in the United States probably 10,000,000 will, at the present rate, die of tuberculosis. The other is the careful analysis of authentic reports to the effect that under the most approved and judicious treatment, from sixty to seventy per cent. of early cases and about twenty-five per cent. of advanced cases get well.

I do not wonder at the general distrust in all treatment that is shown by the public and by many of our brethren. We have been taught that way. Tuberculosis, like cancer and so-called Bright's disease, has long been a synonym for the sword of Damocles. For years the finding of the crepitant râle at the apex, and the bacilli in the sputum, has been like reading the death-warrant in the unmistakable characters of physical signs and symptoms. Now, I believe that a better era has come and the intelligent and earnest physician can treat tuberculosis with something of the same courage that would be his in caring for typhoid fever or pneumonia. Not that the percentage of recoveries is as great, but that the present rate of progress in the understanding of the disease and the results obtained justify the prediction that tuberculosis will soon have a definite therapeutics, as it has now a positive and well-marked pathology.

First of all, I may say that the most important part of the treatment is the *early recognition*. Our fire departments, with watchmen and signal stations in every block, and every service where promptness and alertness are at a premium, could teach us a lesson. There is as much difference between an early and a far advanced case of tuberculosis, in reference to cure, as there is between a small blaze in the corner and a conflagration with falling roof and tumbling walls. Is it necessary that I should plead for careful examinations in all suspected cases? It should not be; and yet only the other day an insurance examiner, with large oversight of the work of others, told me that he believed that fully half of the physical examinations of the chest were made through part, if not all, of the clothing. I could not believe it; but knowing his opportunities for observation and his standing, I could not deny it. For our own sakes, let me add that his field of work is by no means confined to this section of the country.

I would not make this an essay on physical examination; but there are

<sup>1</sup> Read before the Rolla Medical Society at its fifty-third annual meeting.

some elementary points that I would beg you to remember. The value of comparison of the two sides in all chest examinations should never be lost sight of, and the significance of the prolonged expiratory murmur. The importance of this change in the respiratory rhythm cannot be overestimated in early cases. Long before dullness or crepitation, or any of the other physical signs of invasion are found, it is often possible to discover prolonged expiration at the apex. It may not always be heard in front. Sometimes it is better heard in the suprascapular space, or low down in the chest, in cases following pneumonia or other acute conditions. Wherever heard, it indicates infiltration at the infundibulum of the vesicle, or diminution of the elasticity of the intravesicular wall, or both.

The condition represented by this change in rhythm may exist not only before any other physical sign, but before any of the well-known subjective symptoms. If bacilli are present in the lung, they may not as yet be thrown off in the sputum, and the microscopic evidence will be negative. Indeed, I believe that we may have this condition before the entrance of the germ, and that the term "pretubercular stage" is not a misnomer. I further believe that without some such lesion, except in cases of pre-existing acute diseases, bacilli do not find lodgment in the lung, and that true tuberculosis of the lung is a secondary disease.

If, then, there is ever an opportunity to prevent tuberculosis—to cure, if you please, a condition which, if not tubercular already, is the open gateway to the same—it is here. Chest expansion at the apex, care for the general nutrition, and small doses of creosote as a prophylactic, will be worth a dozen times as much as after the active invasion has begun.

But my thought to-day is intended to be suggestive as to treatment rather than diagnosis. There are two objective points in all care of these cases. The first is to attempt restoration to the normal, and the second is to produce, if possible, immunity from the specific factor. The first is along lines that have been followed from time immemorial, but improved and made more practical with each succeeding year. The second is a comparatively new thought in practice, and one that even in its first application promises much. In other words, believing that tuberculosis is a disease in which the specific element is secondary to a pre-existing and possibly simple inflammation, our efforts must be to increase functional activity and to strengthen resistance to germ development.

It would be impossible as well as needless to mention, at any length, all of the factors that make complete the sum total of the care of a case of tuberculosis. These cases demand the utmost attention, well repay it, and yet—may I say it?—seldom receive it. A chronic case of tuberculosis reports occasionally to his physician, keeps on in the same routine, and finally goes to his room or climate hunting, and soon we see him no more forever. Gentlemen, these things ought not so to be. It is your fault and mine if all of these 10,000,000 die from tuberculosis when it is shown that, even with our present knowledge, more than one-half should recover. In keeping with the first thought, *restoration of function*, so many indications are suggested that I can catalogue but a few: food, well-regulated exercise, cough and fever relief, suitable mental occupation, tonics, lung hygiene, antiseptics, and all that goes to aid in restoration to the normal. From the long list I have selected three indications for your thought:



*First.*—The necessity of preventing *auto-infection*. If we recognize the danger of infection from without, we cannot ignore the probability of the same process taking place from conditions within the patient. One of the main hindrances, I believe, in these cases is the reabsorption of bacilli and ptomains from the intestinal tract. When we remember that a tubercular patient may expectorate several billions of bacilli in a day, is it not probable that many millions, at least, pass down the œsophagus with the hourly acts of deglutition? In these cases, the gastric digestion is feeble and the germs pass into the intestine uninjured, and, with the ptomains, find a safe harbor in the retained feces and *debris* retained in the long, convoluted tract. It is easy to demonstrate this by the precipitation of the bacilli from the stools of any typical case.

I have elsewhere made the statement (*Jour. American Med. Association*, December, 1899) that I believe that much of the hectic and afternoon exacerbation is due to this form of auto-infection. No doubt but that much of the good effect resulting from the administration of creosote and like preparations is due to their immediate action in the intestine. If this conclusion is true, then intestinal asepsis is as important in tuberculosis as in typhoid. For this reason for some time I have made a thorough washing of the lower bowel a part of the treatment. In many of these cases it is not well to give purgatives or laxatives. The tendency to irritation is already too pronounced, but no harm can be done by a carefully administered high enema. I have seen the afternoon fever reduced two degrees within a week after the use of the enemata was instituted. Not only so, but for evident reason I have been able to reduce the dose of creosote in these cases. If an enema is given twice a week, slowly and effectively, it will be often enough.

*Second.*—*The heart* should receive more attention in these cases than it often does. The heart muscle suffers as does any other muscle in all wasting diseases. A small, weak heart is the rule in cases of long-continued tuberculosis. It is doubly important that the heart action should be encouraged, for not only is it needed for the nutrition of all the organs and the carrying on of special functions, but there is exceeding need of good circulation in the lung. It is a proposition that we need not wait to argue. Does it not appeal to you that the heart should be so guarded and aided that it may perform its function easily and effectively in all these cases? Heart failure rather than lung failure is the termination, and poor circulation is always one of the final complications. Not only may exercise be employed to this end, where the temperature and strength permit, but I believe it is good practice to add to the other medication a little digitalis and strychnia when the first symptom of heart weakness is shown. I am confident that I have prolonged life by this practice, as well as relieved troublesome features at the last.

*Third.*—*Climate* and its choice is a question that meets us in so many of these cases, and one that we often fail to answer. That good may result from the right choice of climate, in many instances, is true, but that it is also true that more harm than good has been done by the indiscriminate advocacy of "change of climate" without some assurance of its adaptability to the individual case. More than this, many of our Eldorados are fast becoming infected. New cases are being discovered

in our most famous resorts. Years ago, Flint sent his tubercular patients to Illinois. Now, victims in Illinois seek refuge in Texas and Colorado. The restless tide of misery turns from Florida to California and back again to Asheville and the Adirondacks. The surrender of home and home comforts for unknown climatic advantages is a question of barter. My best results in the last three years have been obtained in cases that staid at home. I believe that the special sanitarium will eventually take the place of the hunt for climate. The wonderful results already mentioned and the consequent approval by the profession and by the government authorities, justify this prediction. The proposed plans for a special consumptive hospital in St. Louis will bring this method of treatment directly under your own observation.

The concluding thought at his time is the establishing of *immunity* in the individual. In the minds of most physicians there is much uncertainty as to the value of this; but the problem is being worked out. Each year shows an advance in this direction. My own belief is that a subject may become as thoroughly immune to tuberculosis as to small-pox or diphtheria. The theory is undoubtedly correct, and we are making it more and more practical. For several years I have added the serum treatment to my armamentarium in every case, and my experience compels the conclusion that it is the most important addition that has been added to our treatment of tuberculosis. Not that the serum treatment is in itself sufficient, but it is the only method so far known by which we may in any measure hope to produce immunity. Those who have watched, as I have done, the gradual diminution in the number of bacilli, the final disappearance of the last attenuated specimens and the corresponding mitigation of the symptoms with increase of weight and strength, will gain a confidence founded on something more substantial than mere enthusiasm.

The theory may be formulated very simply thus: toxins, administered to a healthy animal, stimulate the production of antitoxins; these, supplied to an organism that is deficient, tend to a restoration of normal resistance, or immunity. This to me is as reasonable as any proposition in medicine. As to the method of use and the size of the dose, I find that there is no fixed rule. My practice is to begin with the minimum dose, increase until there is a slight reaction, and then continue with a dosage a little less than this. After awhile another advance may be made, and so on through the treatment. The main dangers are: local irritation, too rapid systemic effect, and, in a few cases, a temporary embarrassment of respiration.

The first of these may be avoided by care in making the injection, the second by a slow increase in the size of the dose, and the third is not likely to cause much trouble and soon passes away. I am now treating many of these cases daily, and for months have not had an unpleasant sequence. I do not believe, however, that this agent is incapable of doing harm in careless hands; but that it is efficient and potent for good I can no longer doubt.

Let me close with the same thought with which I began: that the effective treatment of tuberculosis (and we should believe in no other) demands our constant care and best thought, not alone in meeting the main



indications, but in looking after all the details in the conduct of each case. Many a battle is lost because of the neglect of this principle, and many a case is sacrificed because the physician overlooks individuality, and is content with routine treatment. I am sure that in this society I do not plead in vain for exactness in diagnosis and care and painstaking in every part of the treatment.

## NON-MEDICINAL TREATMENT OF CHRONIC CONSTIPATION.

BY H. G. NICKS, of St. Louis, Missouri.

**C**HRONIC constipation rarely exists alone, but is usually accompanied by chronic indigestion; for if one has existed for any length of time, the other follows. They are both dependent upon the same causative effects. Aside from organic defects, the chief cause of these derangements is laxity of muscular fiber. Absorption from the digestive tract is largely dependent upon physical activity. If the demand for nutrition is light, absorption is slow.

Physical inertia is directly responsible for sluggish circulation and for shallow, insufficient respiration. The movement of the blood in the larger veins and portal system is dependent largely upon the muscles surrounding them. If these are unused, the circulation is slowed, the intestinal veins become congested and filled with blood—they lose to a large extent their absorbent power—the intestinal contents remain too long a period in the canal, the lymphatics not meeting the demand, and many digestive disturbances arise, chief of which are fermentations, gaseous eructations, and abdominal distention.

The portal vein and liver becomes congested, interfering with all the functions of the latter viscus, retarding the flow of bile and preventing the full exercise of its peculiar power to arrest and render innocuous toxic substances absorbed from the intestinal canal. These pass into the general systemic circulation unchanged, and manifold disturbances arise, among which are headache, nausea, loss of appetite, vomiting, palpitation of the heart, melancholia, anæmia, etc.

Chronic constipation sometimes leads to serious disturbances, hemorrhoids, ulceration of the colon, neuralgia of the sacral nerves, congestion of the pelvic organs, and in women great pain during menstruation.

In women, aside from the lack of muscular exercise, we find two active causative factors:

(a) The failure to obey nature's calls, either from motives of modesty or lack of opportunity. Many women will for hours resist the desire to stool. The feces, remaining for a prolonged period in the bowels, are by absorption deprived of a large part of their contained water, and become dry and hard. The nerves, through overstimulation, are exhausted, and when opportunity finally offers for relief, the desire has passed, the mass remains, and constantly increasing by accretions from behind presses upon and impedes circulation in the pelvic and abdominal vessels.

(b) The corset. No woman ever wore a corset tight enough, in her own estimation, to injure her or interfere in the slightest with the movements of thorax or abdomen. They invariably explain, when suggesting to them the possibility of their having done so, that both hands can be placed under their corset. But nevertheless I must accuse it of a most potent influence in production of chronic constipation.

*First.*—By displacement of the abdominal and thoracic organs.

*Second.*—By its interference with abdominal respiration.

*Third.*—Loss of muscular tone by inhibiting muscular action.

TREATMENT.—Of no condition has the saying proved so true that the amenability to treatment is in inverse ratio to the number of drugs suggested for its cure. We have all tried a number of them again and again, only to fail. No single drug ever effected, unaided, a cure of this disturbance; and the whole list of cathartics and laxatives, while useful in giving temporary relief, will in the end only increase the disability.

*Habit.*—Much may be accomplished by regular habit. The patient should be instructed to select an hour that will allow of certain liberty to attend to this duty. Nothing should be permitted to interfere. He should go to stool with the mind on this important function and this alone. Reading a newspaper should be strictly forbidden, the mind being occupied wholly with the business in hand.

*Enemas.*—They are commonly used in chronic constipation, and almost every household has hanging in a convenient place the fountain syringe. But its use is not unattended with danger. Invaluable as a temporary expedient, their constant habitual use only leads to increasing disability of the lower bowel.

When an immediate evacuation is desired, its action may be quickened by the use of glycerine; sweet oil will aid the passage of hardened feces; and large enemata of soap and water will be useful in breaking up large masses.

*Diet.*—The diet should consist of digestible foods, which excite peristalsis by either physical or chemical properties. Vegetable food, as furnishing a larger proportion of waste than nitrogenous, will be found useful. Fruits, such as figs, berries of all kinds, and grapes contain indigestible seeds, which act mechanically. Lemons, oranges, prunes, cherries, plums, peaches, pears, and apples possess laxative properties through chemical action. Fruit is more active when taken between meals—one-half hour before eating. It enters at that time more rapidly into the small intestines, and its action is not interfered with by other bowel contents. The juice of one or two oranges taken at night, when retiring, will be frequently found effective. Canned or preserved fruits are not as useful.

Vegetables contain a large quantity of cellulose difficult of digestion and of comparatively little nutrient value to man. They yield a large amount of waste matter. Starchy foods, such as potatoes, corn, beans and peas, are of this class. Other vegetables, such as cabbage, spinach, lettuce, tomatoes and celery, leave a large residue after digestion. Onions and spinach possess special laxative properties. Graham and rye bread, grits, cornmeal, oatmeal, all have a tendency to hasten peristalsis.

*Water.*—Many sufferers from chronic constipation take but little



fluid. This should receive careful attention, and the amount of fluids ingested carefully ascertained. Many persons abstain from drinking water at meals from a belief that it is injurious, and during the intervals they forget to take it. Such patients should be advised to take water freely. A tumbler two or three times full on retiring and again on arising, and one a half hour before meals.

*Exercise.*—Mechanics and all those whose occupation requires active physical movements are rarely troubled with disturbances of the digestive tract; but in sedentary occupations movement is so limited that systemic tone is lowered and the digestive organs are the first to suffer.

The movement of blood in the abdominal veins is largely effected by the action of muscles surrounding them. If the respiration is free and deep, the diaphragm in descending displaces the abdominal contents. The contraction of abdominal muscles act in the same manner, forcing onward and actively influencing the flow of blood, exciting peristalsis and aiding the onward movement of the bowel contents.

Muscular movement is then a most potent factor in the treatment of chronic constipation:

(a) By increasing the rapidity of the blood current and raising tension. Every muscular movement displaces the fluids in veins and lymphatics entering its substance; this displacement can take place in only one direction, towards the heart. A change in the muscle substance is effected, more blood is sent to the working part, and the general systemic circulation is improved, the blood current quickened and arterial tension raised.

(b) By stimulating absorption, the destruction of tissue during muscular movements necessitates a supply of new material. More blood is flowing through capillaries and veins, the interchange of gases and fluids through the vessel walls is greatly increased. The blood is rapidly deprived of its nutrient elements, a demand is made upon the digestive organs to supply this need, appetite is improved, and all the tissues are stimulated and strengthened.

(c) Respiration. One of the most apparent effects of muscular movement is its influence on respiration. The blood, charged with carbon-dioxide and deprived of its oxygen, is sent to the lungs more rapidly and in great quantity. Respiration is deepened, allowing more air to enter the lungs, the diaphragm descends, displacing abdominal contents.

Muscular movement, then, should be given a very prominent place in the treatment of chronic constipation, and should be prescribed for both local and systemic effect.

Local exercises, while not wanting in systemic effects, produce a more local effect:

*First.*—They remove local congestions.

*Second.*—Improve local circulation.

*Third.*—Incite peristalsis.

*Fourth.*—Promote absorption.

General exercise:

*First.*—Improve the systemic circulation.

*Second.*—Deepen respiration.

*Third.*—Increase absorption.

*Fourth.*—Incite peristalsis.

In prescribing exercise the following order should be observed: First general, then local. The following outline may be useful:

Raising on the toes.

Running, either in place or gaining ground.

Skipping rope.

Raising the shoulders.

Circles of the arms.

Raising the chest-walls.

Deep breathing.

Turning the trunk.

Bending the trunk forward and backward.

Bending the trunk to the right and left.

Touching the toes without bending the knees.

Chopping movements.

Separate the feet widely, swing the arms overhead, and then down between the feet.

Swing them overhead, and then first to the right and then left toe.

The above are suggestive only, and may be arranged by the physician to meet the indications or suit the convenience of the patient. The chief requirement is vigorous execution.

*Massage.*—The following massage movements are useful in all cases, and especially so for patients who from any cause might not find it advisable to take the more vigorous movements indicated:

*Rubbing.*—Beginning at the cæcum, carry the flat hand with considerable pressure along the colon, returning to the starting-point with a circular motion. *Kneading.*—This movement is similar to the kneading of bread. Pressure is made alternately and rapidly with either hand along the line of the colon. Where deeper local effects are required, the fingers, held firmly together, may be used. *Squeezing.*—The abdominal walls are pressed between the hands, and while pressure is exerted the hands are drawn together, the abdomen slipping through. *Pinching.*—The abdominal walls are grasped strongly between the thumb and finger of each hand.

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**A Sanitarium for the Treatment of Tuberculosis in St. Louis.**—It seems now to be an assured fact that St. Louis is at last to have a sanitarium for the treatment of tuberculosis. This institution is to be under the charge of the Sisters of St. Mary, and is to be located in the southern part of the city, near Jefferson Barracks. The plot of land to be used is said to be ideal. Modern buildings are to be utilized, besides which a large sanitarium is to be erected, and also pavilions for the open-air treatment of this disease. Every facility for modern treatment will be at hand. The medical director of this institution will be Dr. William Porter, a gentleman who has had a large and extended experience in the treatment of this affection, both in private practice and in institutions abroad.



## THE CLITORIS.

By BYRON ROBINSON, B. S., M. D., of Chicago, Illinois,

Professor in Chicago Post-Graduate School of Gynecology and Abdominal Surgery; Professor Gynecology, Harvey Medical College and Illinois Medical College.

THE clitoris is an erectile organ analogous to the corpora cavernosa of the penis. It consists of crura, body, and glands. The clitoris represents the external end of a chain of erecto-turgescent organs which extend along the vagina, uterus, oviducts to the ovary. It is situated in contact with the margin of the rami of the ischium and pubis, and lies immediately beneath and anterior to the pubic arch, to which it is fixed by a ligament.

The *glans clitoridis* is the free portion, and the only part which can be seen when the labia are drawn asunder. In some women with widely cleft vulval slit and small labia the glans is visible while the subject stands erect.

It is located at the apex of the urethral triangle, immediately below the anterior commissure. In the resting state the glans is about the size of a pea, and almost entirely enclosed in the folds of the prepuce. With the labia majora separated it appears as a pear-shape projection concealed between the diverging folds of the labia minora. In multipara in the erect position it may be visible at the superior end of the vulval slit, projecting between the labia majora immediately below the mons pubis. The shape of the glans clitoridis resembles that of the glans penis, except that it has no urethral canal. The size varies in individuals, and frequently requires search to find it. The glans is the most sensitive portion of the clitoris. It is the chief seat of sexual excitement. In the resting state it is somewhat cone shape, but in the erected state it is more rounded, like the glans penis. The erectile or erecto-turgescent quality of the glans clitoris is much less than that of the glans penis, as it possesses more connective tissue. The cavernous tissue of the glans clitoridis is limited, hence its erectile quality is curtailed. The turgescent quality of the veins which belong to the clitoris (the vaginal bulbs) is more exalted than that of the penis. The glans is covered by an extensive membrane from the labia minora, which is skin containing numerous small papillæ holding loops of blood vessels and bearing end nerve bulbs or genital corpuscles.

The glans clitoridis is partially enclosed in the folds of a prepuce which consists of the divided anterior commissure of the labia minora. At the apex of the urethral or vestibular triangle the labia minora divide into an upper fold, called the preputium clitoridis, and a lower fold, known as the frenulum clitoridis. The frenulum forces the glans corpora clitoridis into a sharp downward curve, preventing its extended attitude during the erecto-turgescent state. The folds of the prepuce form a kind of hood for the glans and contain no sebaceous glands. The remarkable membrane immediately covering the glans contain few sebaceous glands. The prepuce and frenulum of the clitoris are continuous with the labia minora. The prepuce of the clitoris does not cover the exposed extremity of the glans, nor can it be retracted to a like extent with the prepuce of the penis. The space existing between the glans and the preputium clitoridis is

known as the saccus preputialis clitoridis. This sac is the locality of the accumulation of smegma clitoridis, and of practical utility in gynecology, for collections of smegma create irritation and congestion, inducing masturbation habits. After dissecting away the frenulum and preputium clitoridis the free curved body of the clitoris may be observed, tipped by its glans. Between the shaft and the glans is a distinctly visible isthmus. The glans essentially agrees in shape with that of the penis, and in the place of the urethra a triangular depression exists which is occupied by the frenulum clitoridis. The glans consists of cavernous and connective tissue, sits hat-like on the distal end of the corpus clitoridis, and is cov-

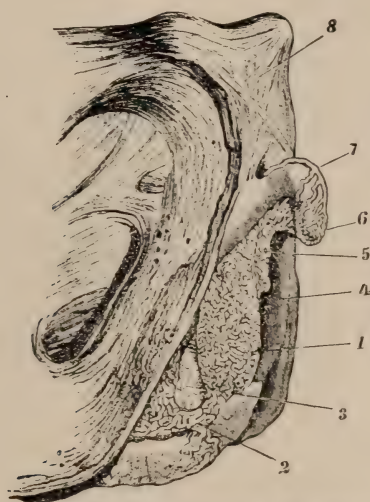


FIG. 1.—(KOBELT) A SIDE VIEW OF THE CLITORIS. ALSO THE VULVO-VAGINAL GLAND AND THE BULBUS VAGINÆ IS WELL SHOWN.

- 1.—Right bulbus vaginæ (vestibuli).
- 2.—Veins below the inferior end of the bulb which empties into the pudendal veins.
- 3.—Vulvo-vaginal gland.
- 4.—Orificium vaginæ.
- 5.—Pars intermedia.
- 6.—Glans clitoridis, with the clitoris somewhat lifted upward, showing its distal concavity.
- 7.—Vena dorsalis clitoridis.
- 8.—Symphysis pubis.

The clitoris appears in this cut as if it were erected, showing its perineal convexity. The end of the dorsal vein spreads over the glans like a fan, The glans is tipped by a network of nerves.

ered by genuine skin composed of a deep layer of cylindrical cells and a superficial layer of cubical or squamous cells.

*The corpus clitoridis* is a body or shaft resulting from the union of the two lateral crura. It is fixed to the pubis symphysis by the ligamentum suspensorium clitoridis. The body of the clitoris is about one-half inch long in the resting state. In erection it increases, perhaps, one-third in size, or elongates its curve. In the erected state the body of the clitoris assumes a curve with its concavity on its distal surface, while the penis in erection assumes an extended form—or perhaps it is better to say that the curve of the erected penis is directly opposite to that of the erected clitoris. The shaft is enclosed in a fibrous membrane (fascia clitoridis) which projects between the two halves of the body as a septum possessing imperfect perforations. The corpus clitoridis in the resting state rolls under the finger



as a hard cord-like body. It is partly attached to the symphysis pubis and partly dependent, the limit between the fixed and movable portions being decided by the suspensory ligament. The ligamentum clitoridis suspensorium is a small but distinct band of fibers which arise from the superior half of the symphysis pubis and insert themselves on the proximal border of the posterior half of the body of the clitoris. Anterior to the attachment of the suspending ligament the shaft of the clitoris is freely independent, like the penis. However, its mobility is further limited by the frenulum. In the erecto-turgescient state the clitoris retains its knee-like angle or curved condition, while the penis assumes an extended form. In erection the clitoris really assumes an arched state, as injections into the cavernous tissue will demonstrate. The extended form of the clitoris in the erecto-turgescient state is prevented by the preputium, and especially the frenulum clitoridis. The curve assumed by the erected clitoris on its distal border, and its fixation in that position with its sensitive glans directed distalward, enhances the physiology of the clitoris as an organ of sexual excitement. In the erected state the glans clitoridis receives more friction through the distal curve of the shaft during copulation than it would with a proximal curve, or an extended form.

The *crura clitoridis* are two spindle-shaped bodies of spongy texture and about one-half inch in diameter. They are firmly connected to the margins of the ascending ramis of the ischium and descending ramus of the pubis. The proximal ends of the crura are pointed, while the distal ends increase in thickness, pass median and proximalward to converge into the shaft or body (*corpus clitoridis*). The inner side of each crus is covered by the slender erector clitoridis muscle which arises on the ischial tuberosity and inserts itself into the proximal and distal borders of the crura at their point of junction to form the shaft. The erector clitoridis muscle at its origin or proximal end is preponderatingly fleshy, its middle segment contains many tendinous fibers, while its distal end merges into an aponeurosis, the fascia clitoridis, which with its opposite fellow encloses the proximal end of the *corpus clitoridis* in a kind of fibrous sheath.

*Gross Anatomy.*—At their origin externally the crura resemble solid fibrous cords; on cross-section the cavernous tissue is observed located in the center of each crus, and it gradually disappears toward the point of origin and the circumference. The spongy structure of the cavernous tissue is clearly apparent to the naked eye; however, its trabeculæ appear finer than that of the penis. Each crus is covered by a thick, solid fibrous layer, which lends to them a hard cord-like feeling. The clitoris is enclosed by the fascia clitoridis. The essential structure of the body is cavernous tissue enclosed in the tunica albuginea, over which lies sensitive nervous tissue. A sagittal section of the body shows that the clitoris is the analogue of the penis by its cavernous tissue, by its two lateral halves (*corpora cavernosa*) separated by a rudimentary or imperfect septum, its penile contour, gross resemblance to the male organ and their active share in sexual excitement.

*Microscopical anatomy* of the clitoris shows that the glans are covered by the skin composed of stratified epithelia—*i. e.*, cylindrical cells which gradually flatten toward the external surface. It possesses numerous papillæ which contain fine capillary loops and end nerve bulbs or genital

corpuscles. The erectile, erecto-turgescent and turgescent tissue of the clitoris is all similar as essential characteristics. It may be remarked that in the penis the tissue is preponderatingly cavernous, while in the clitoris it resembles more the collection of venous plexuses than cavernous spaces. The cavernous or trabecular tissue of the clitoris gradually decreases in thickness from the glans to the proximal ends of the crura,

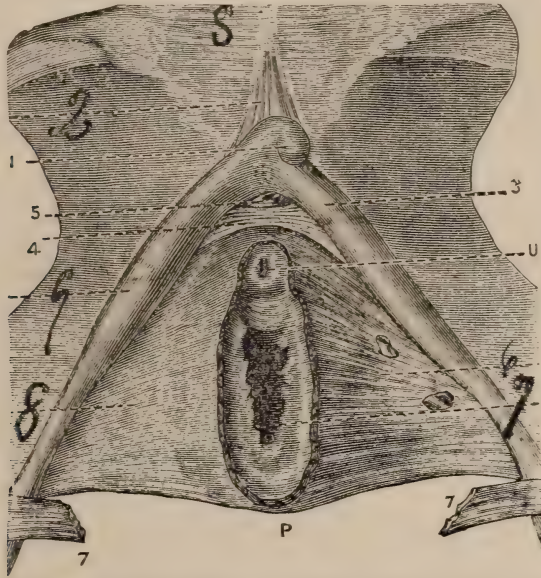


FIG. 2.—(SAVAGE) REPRESENTS A FRONT VIEW OF THE CLITORIS.

- 1.—Clitoris.
- 2.—Ligamentum suspensorium clitoridis.
- 3.—Crura clitoridis.
- 4.—Subpubic ligament.
- 5.—Dorsal vein of the clitoris. It enters the pelvis between the ligament and pubic arch, immediately dividing into right and left branches.
- 6.—Perineal septum. The anterior aponeurosis is removed. The septum has also a posterior aponeurosis. Between the anterior and posterior aponeurosis courses the deep transverse muscles indicated by 6. This double aponeurosis with the intervening muscle constitutes a strong membrane. It is attached laterally or externally from the subpubic ligament along the border of its descending pubic ramus and ascending ramus of the ischium as far as the tuberosity of the ischium. The upper oblique muscular fibers between the aponeurotic septum join those of the opposite side so as to enclose the urethra (Guthrie's muscle). The lower transverse muscular fibers meet each other below the vagina; the vagina is thus enclosed between the divided muscular bundles. The remainder of the septum resembles, in the mixed arrangement of its fibers and their intimate relations to the aponeurosis, the coats of the vagina, of which the septum may be considered a continuation with upper oblique and lower transverse muscular fibers superadded.
- 7.—Outer attachments of the superficial transverse muscle.
- 8.—Anterior aponeurosis, the shaded line (on the left side) indicating the surface attachment of the sphincter vaginae.
- P.—Site of perineal body. The cut shows the shape and outline of the clitoris.

where it has almost entirely disappeared, while the firm fibrous covering of the clitoris, the tunica albuginea, gradually increases in thickness from glans to proximal end of the crura. The covering of the glans immediately beneath its skin is really an expansion of nerve tissue enveloping it like a hood.

The vascular supply of the clitoris has direct reference to the erectile, erecto-turgescent and turgescent organs of woman. The clitoris receives its arterial supply from the two terminal branches of the internal pudic artery which courses between the junction of the crura clitoridis and the pubic arch, then pierce the suspensory ligament and travel along the dorsal portion of the shaft on either side of the dorsal vein of the clitoris.



One of the arteries, the profunda clitoridis, supplies the crura and body of the clitoris. The continuation of the remaining arteries become the dorsal artery of the clitoris supplying the body, glans and prepuce. The dorsal arteries of the clitoris have a free communication by means of small branches.

*The veins* of the clitoris begin as a small fine plexus on the glans, and by the coalescence of tributaries become the single dorsal vein of the clitoris. The dorsal vein of the clitoris courses proximalward between the two dorsal arteries to the space between the pubic arch and subpubic ligament, which it pierces, and terminates in the vesicle plexus. The upper end of the vaginal bulbs are so intimately connected with the veins of the clitoris that it appears they—the pars intermedia—are a portion of the clitoris itself intervening between shaft and glans. The pars intermedia appear to aid in joining the glans to the corpus clitoridis.

Beside the depletion of the clitoris by the dorsal vein and the pars intermedia, it is also depleted by the urethral, obturator, perineal and pelvic veins. The plexus intermedius, the lesser vaginal bulbs, lies partly between the shaft and glans, but chiefly in the angulus clitoridis or knee-curve on the distal border of the body. The vascular supply of the clitoris is richer and more complicated than that of the penis, being locally collected into vascular masses. The blood supply of the penis is richer internally, while in the clitoris it is richer externally. The septum corpus clitoridis affords free vascular communication between both sides.

*The lymphatics* of the clitoris are numerous and large, as the vast vascular supply would indicate. It is surrounded by a plexus of lymphatics which, after receiving branches from deep tissue, terminates in the inguinal glands. The anatomic relation of the lymphatics of the clitoris to the lymphatics of the inguinal glands is of practical importance in gynecologic practice. Any infection of the clitoris, as gonorrhœa, syphilis, or carcinoma, will travel along the lymph channels to the lymph node in the groin, manifesting itself in bubo, enlarged or suppurating lymph nodes.

*The nerves* of the clitoris are rich in number and large in size for a small organ. With regard to size, the clitoris is supplied with five times as many nerves as its analogue, the penis. It is richly supplied by the sympathetic with its sheaths of genital corpuscles. The clitoris receives an abundant supply from the pudic nerve, whose peripheral expansion covers its glans like a hood. The sympathetic nerves supply especially along its numerous arteries and veins associated with the erectile tissue. The branch of the pudic nerve which supplies the clitoris is relatively larger than the same branch which supplies the penis. The dorsal nerve of the clitoris accompanies the dorsal artery through the suspensory ligament, along the proximal border of the body to the glans clitoridis, where it, net-like, expands into a nervous sheath which, like a night cap, covers the glans with a highly sensitive surface. The dorsal nerve not only tips the glans with an extended nerve periphery, but it sends branches to the prepuce and to the interior of the organ. The clitoris may be compared to an electric bell button which being irritated rings up the whole system of nerve reflexes. It is the most important and sensitive erectile tissue in the female organs and is the chief seat of sexual excitement.

There is a free anastomosis between the sympathetic and cerebro-spinal nerves at the clitoris. The clitoris is a rudimentary organ and its nerve remnants survive intact the longest. The pudic nerve forms by its extensively expanded periphery lying on the tunica albuginea or fascia clitoris a sensitive covering for the shaft and crura. The clitoris has no urethra, and its extremity is mounted by highly sensitive rudimentary glans of spongy erectile tissue. There is secreted an oily substance (smegma) between the prepuce and glans clitoridis (the preputial sac), for lubricating and olfactory purposes. The clitoris possesses no sudoriparous glands. In digital examination the finger should not pass over the sensitive clitoris but over the perineum. The nerve supply of the clitoris increases from proximal to distal extremity. The nerves supplying the organ assume a peculiar expanded periphery, endowing it with a preponderating sensory area of sexual excitement. Between the clitoris and prepuce adhesions should be broken up and smegma removed so that all physical irritations of the genitals may be removed. Genital irritations may induce habits of masturbation.

*Physiology.*—The clitoris assumes function, which is profound congestion, by the erector clitoridis muscle becoming contracted and obstructing the return venous flow. The contraction of the muscles is insufficient to obstruct the stiff walled artery which pumps its blood continually into the clitoris while the soft compressible walls of the veins easily yield to the contraction of the muscle. The erection, erecto-turgescence or turgescence of the clitoris is instigated by mental or physical suggestion.

The removal of the clitoris for neurosis or masturbation habits is unjustifiable. However, in extreme cases the chief nerve might be resected and the main artery ligated on both sides as it courses along the crura of the pubes. One inch below the clitoris is located the urethra—*i. e.*, the length of the first joint of the thumb. This localization aids in introducing a catheter, which should always be performed by sight, and not by touch.

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**The Etiology of Erythema Intertrigo.**—In the *New York Medical Journal* for December 16, 1899, appears an article by Max Meyer, in which that writer claims to have isolated the microbic cause of erythema intertrigo. The article gives in the main only a biological description of the micro-organism which Meyer isolated in a case of the disease—*i. e.*, a micrococcus which he calls the *micrococcus intertriginis* Rossbach. As to its pathogenesis, he says that on animals inoculated with the pure culture by scarification, the disease appeared within forty-eight hours, and cultures made from these inoculations produced the same germ, which proved to be virulent to the tenth generation. The micrococcus is an ærobic, liquifying, pathogenic micro-organism. It grows readily on all the culture media ordinarily used and can easily be separated from the surface of the skin at the point of affection with the disease.



## NEURASTHENIA AND NUCLEIN THERAPY.

BY ARTHUR E. MINK, M. D., of St. Louis,

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THE genius of Theodor Schwann, the founder of the cellular doctrine, led him to appreciate the true importance of cell nucleus, although he attached undue importance to the functionally valueless cell wall. Even Schwann, however, recognized that the cells of pus and mucus possessed no cell wall. It remained for Leydig to properly define the cell as a nucleated mass of protoplasm, possessing all of the properties of an elementary organism. His views were corroborated by Max Schultze.

Later on the discovery of non-nucleated protista, such as the *Amoeba* *proreusta* and *protogenes* *primordialis* led histologists to consider the nucleus as an unessential constituent of the cells. These views remained dominant for many years until the attention of investigators was turned to the phenomena which accompanied the fertilization of the ovum. It was then shown that the nucleus plays the principal part in the fertilization and subsequent division of the egg cell. The discovery later on by Flemming of the phenomena of karyokinesis or mitosis restored to the cell nucleus its proper role in cell nutrition and division.

Owing to the great advances in histological technique, especially those recently made by Nissl and others, our knowledge of the functional changes of nerve cells is rapidly becoming as complete and as satisfactory as are those of the salivary, peptic and pancreatic glands, kidneys, etc. Some of the first work along these lines was done by Hodge, in examining the changes shown by the nerve cells of bees and swallows before and after fatigue. He found, along with diminution of the cell body and its chromatic substance, also a diminution of the volume of the nucleus with alteration of its form and an increase of its chromatin.

Vas stimulated the cells of the sympathetic ganglia for fifteen minutes and found that the cell nuclei became large and inflated. It occupied the peripheral zone of the cell protoplasm. Mann repeated the experiment of Vas and showed that in extreme fatigue the nucleus is retracted with increase of chromatin. Hodge has compared the nerve cells of a newborn child with those of an old man of ninety-two years. He found in the old man that the nerve nuclei were shriveled up and that the nucleoli would no longer stain with osmic acid. In the infant, on the contrary, the nuclei were large, round and clear, the nucleoli were voluminous and stained easily. Lugaro has also made researches which corroborate those of Vas. Putting all of these researches together they show that during normal cell activity there is a turgescence and enlargement of the nucleus. When, however, this activity is pushed to the point of fatigue there occurs a shrinkage and deformation of the nucleus. It is pushed to the periphery of the cell body and its chromatin is increased. Another phenomenon which seems to demonstrate the importance of cell nutrition is the fact that in the degeneration of nerve cells, due either to disease or section, the process always seems to start in the immediate vicinity of the nuclei. The

principal chemical constituent of nerve cell nuclei is a complex proteid compound nuclein. It has been demonstrated by the researches of Horbaczewsky and others that the principal product of the disintegration of nuclein is uric acid. This, then, explains the frequent occurrence of neurasthenia in the gouty, and also the fact that the urine of so many neurasthenics contains uric acid in excess.

The nerve cells of the neurasthenic are in a constant state of fatigue, due to excessive waste or disintegration of nuclein. There are doubtless other by-products of this katabolism, and these undoubtedly have a toxic action upon the nerve centers. These products of fatigue, by accumulating in the pericellular lymph spaces, can add to already existing nerve fatigue, for Mosso has demonstrated that the products of fatigue themselves produce fatigue.

In the light of these views regarding neurasthenia, what should be our treatment of this affection? Several indications are to be followed: First, we should keep the emunctories of the body in action in order to remove the toxic products of perverted nerve nutrition as rapidly as possible from the body. The bowels of the usually constipated patient should be kept open by the use of laxatives.

The patient should drink plenty of water (they usually do not drink enough) in order to stimulate the activity of the skin and kidneys. The salts of lithia are useful, too, in aiding the elimination of uric acid. The nervine tonics, such as gold, arsenic, iron, quinine, etc., are constantly prescribed by me. Above all, however, we must make up for the rapid waste of nuclein by the administration of this substance in one of its forms. I prefer protonuclein. I commenced the use of it upon purely physiological grounds, but the end has justified the means. For a long time I have been administering this preparation with the most satisfactory results.

Tepid baths at evening especially are of great aid in calming the patient and producing sleep. Electricity is an indispensable agent in the treatment of neurasthenia. General galvanization is the form preferred by me. The diet should be plain, nutritious, and easily digested. Milk should be taken copiously. Alcohol, coffee and tobacco should be interdicted. In the earlier stages of treatment the non-narcotic sedatives and hypnotics may be used, but should be abandoned as soon as possible. The occupation should be suspended when possible.

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**Angina Ludovici.**—The peculiar swelling and inflammation, often attended with suppuration, which occurs in the sublingual region is called "angina Ludovici," after the man Ludwig, who first described the condition. It is plainly a microbic disease, as has been partially proved by the work of Montrac, who found the staphylococcus pyogenes aureus in the tissues; by Chantemesse and Widal, who found a pure culture of the streptococcus pyogenes in such cases; and by Macaigne, who found the same thing in association with a poorly defined bacillus. From these findings it is reasonable to assume that the entrance of any pyogenic microorganism into the sublingual space would be productive of an ensuing angina Ludovici. It is, in other words, a "sublingual phlegmon."



## REPORT OF A CASE OF SEVERE RENAL HEMORRHAGE WHICH CLOSELY RESEMBLED BLEEDING FROM THE BLADDER OR POST-URETHRA.

BY BRANSFORD LEWIS, M. D., of St. Louis, Missouri.

**I**N CASES of chronic hematuria, or even of acute hematuria of a moderate degree of severity, it is seldom difficult to determine whether the bleeding comes from the kidneys or the lower urinary tract. In the following case the bleeding was so serious, the development of the case so misleading, and the differentiation so difficult that, for a time, I had under consideration the advisability of doing perineal urethrotomy in order to stanch the hemorrhage and obviate the dangerously anemic condition that impended; which operation, if performed, would not only have, in all probability secured no benefit, but might have materially added to the seriousness of the situation. The lesson of conservatism and, at the same time, alertness for unexpected happenings, embodied in the case is sufficiently valuable, I think, to warrant its presentation.

Mr. C. W. L., thirty-seven years of age, American, manufacturer, had for a long time been the subject of an antero-posterior urethritis, for which he had received treatment by injections, sounds, vesicular and prostatic massages, etc., by an eminent genito-urinary surgeon of another city; which general plan of treatment was practically continued by me after the patient's arrival as a citizen of St. Louis.

In the course of this treatment, on March 3, 1899, curved steel sounds numbered 27, 30, and 32, French, were passed as far as the vesical neck; on March 11th, sounds 29, 32, and 33 were used; on March 23d, sounds 30, 32, and 33; and on April 5th, sounds 30, 32, and 34. These soundings were all made in a similar manner, and did not evoke any especial degree of pain or complaint. The only difference in the subjective effects of the several treatments was mentioned by the patient the last time, when, upon introducing the size 34, he remarked that it had caused, for the first time, a sense of distention of the neck of the bladder. On all previous occasions this sense of distention had been confined to the meatus, but at this time he felt it at the vesical neck.

There was no especial after-pain, and the patient continued his ordinary duties the remainder of the day (the treatment had been given at noon). But on urinating the next time, at about six in the evening, he was surprised to find the urine full of blood, with the passage of blood-clots following the act. He went home and shortly thereafter found it again necessary to urinate. At this time the fluid passed was almost pure blood, with numerous blood-clots accompanying and frequently obstructing the urethral channel. I was sent for but could not be reached until about ten-thirty o'clock that night. In the meantime, the patient suffered greatly from the filling of the bladder with blood and clots, and its consequent contractions and inability to expel its contents. The patient used a soft rubber catheter, but with only partial success, the clots obstructing the catheter channel as they had done the urethral.

On arriving, I found the patient in this exceedingly uncomfortable situation. Blood was oozing from the urethra in drops and was frequently ejected in small quantities, clotted, as the bladder and urethra underwent involuntary contractions. From this fact, and from the freshness and brightness of its color as it came out, when considered in connection with the urethral soundings made a few hours previously, it appeared that the hemorrhage was from either the deep urethra or the vesicle neck; that the veru montanum had possibly been torn, or some vessels of the mucous membrane of that locality broken by overdilatation. There were, at that time, absolutely no signs pointing to the kidneys as the origin of the bleeding: no pain, no soreness, no chill, no fever. On the above diagnosis I endeavored to check the bleeding by the means ordinarily used in such cases. The bladder was washed through a large-sized soft rubber catheter, and then hot and cold water were alternately used, the catheter being allowed to remain in. An ice-pack was applied to the perineum and, later, this was replaced by a padded crutch supported by the foot of the bed. This afforded strong continuous pressure against the perineum, while the counter-pressure was effected by the large rubber catheter lying within the urethra. Ergot was given in half-dram doses, repeated at frequent intervals. The catheter, though of large size, drained but poorly, clots filled its inlet, and the hemorrhage continued. The bladder refilled with urine and clotted blood. This condition continued throughout the night, the bleeding not being rapid enough to warrant immediate operative interference, but all the while growing more serious from its persistence. Its constitutional effect was noticed in the blanching of the patient's face and the increased frequency of the pulse. It was evident that something must be done shortly to check further drain on his strength. Numerous other maneuvers not mentioned above had been tried without success. Finally, a good-sized psychrophor was introduced into the urethra as far as the bladder and a stream of ice-water was run through it for a half-hour, until the parts were, as the patient expressed it, "so numb that he couldn't feel anything down there." This, we were gratified to observe, was followed by a lessening and finally discontinuance of the bleeding, and it was only then that he began to complain of a feeling of fullness or heaviness in the back. No particular attention was paid to this at the time, however, as our interest was concentrated on the stoppage of the hemorrhage, and from the further fact that he had been lying in one position, on his back, for many hours, which, it was thought, was sufficient to give him a backache.

He was allowed to go to sleep then, and a rest of three or four hours followed. On awakening, he experienced quite severe aching pain in his lumbar region, more especially on the right side, and this continued, but with gradually diminishing intensity for the next three or four days. There was also marked tenderness in the lumbar region, corresponding to the spontaneous pain mentioned, especially on the right side, and tenderness in the line of the same ureter.

There was no more active hemorrhage from the urinary tract; but the urine remained tinged with blood for five or six days, and it was of the smoky hue that indicated its renal origin. It was clear, then, that the bleeding had been from one or both kidneys, but probably from the right one only, and my



early diagnosis had been erroneous. The reason why the usual means for stopping hemorrhage from the posterior urethra or the bladder (hot and cold irrigations, pressure, etc.) had so signally failed was also cleared up by this development. Their effects were exerted only on the urethra and bladder, while the blood continued to ooze from the ureters into these organs, being expelled through the urethra by the involuntary spasmodic contractions of the bladder when it became filled with clots. The ice-cold psychrophor probably caused a reflex influence on the kidney or kidneys that suppressed the hemorrhage. Heat or cold applied directly over the kidneys would, in all probability, have brought about a more prompt and agreeable success.

Considering the various phases of the case, however, I am inclined to think my mistake in diagnosis was largely justifiable. The continual oozing of blood from the urethra, the previous passage of the large-sized sound, together with the entire absence of direct symptoms of kidney derangement, all contributed to the conclusion reached.

The case, I think, is as unusual as it is instructive. It is not remarkable or unique to observe renal hemorrhage following catheterization and the withdrawal of a large quantity of long-retained urine—for instance, in cases of prostatic obstruction, or of old and tight strictures. But in such cases the hemorrhage is not the result of the passage of the instrument, but is in consequence of the withdrawal of the continuous and tense counter-pressure of urine on the mucous membrane of the bladder—and, possibly also, of the ureters and kidneys, if the ureteral openings are patulous. In the case related, no such condition was present; there had been no retention of urine, and no withdrawal of any. The renal congestion and hemorrhage were due to the reflex nervous shock on the kidney, exerted by the passage of the sounds or of the large-sized sound through the urethra. As there had been no ill effects following the use of smaller sounds, it is safe to presume that it was the large-sized one that occasioned the mishap.

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## PREMATURE BURIALS.<sup>1</sup>

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**P**HYSICIANS differ much in their views in regard to the question whether live burials are frequent or not, some declaring that they never occur, and one, who has made a special study of the question, that out of every two hundred one is buried alive.

I am far from agreeing either in one extreme or the other, but I do believe that premature burials are not very rare, and I base this belief on the fact that graves so extremely rarely are reopened, and still sometimes it is asserted that sometimes it became evident on such occasions that the inmate of the grave had revived in his coffin.

<sup>1</sup> Read December 19, 1899, before the Section on Medicine of the New York Academy of Medicine.

*Secondly*, and this consideration has much more weight with me than the first, I base my belief in the comparative frequency of premature burials on the numerous cases in which people have had narrow escapes from being buried alive.

*Thirdly*, I base my belief on the unreliability of the so-called signs of death, with the sole exception of unquestionable putrefaction of vital organs.

*Fourthly*, I base it on the absence of proper laws to protect the apparently dead against live burial.

*Fifthly*, and lastly, I base it on the carelessness with which death certificates are signed by physicians.

The time allotted me is so short that I cannot do more than skim this interesting subject.

On February 9, 1899, the *Sun* contained a report of the case of Mr. Rigley, a prominent inhabitant of Tonawanda, New York, whose body was dug up on account of a life insurance dispute, and is said to have shown that the man had revived in his coffin, smashed the glass over his face and bled from the wounds received in so doing.

Among those who have had narrow escapes from being buried alive are men so worthy of credence, that we would have to reject all historical evidence, if we would refuse to admit their testimony; such men as the celebrated anatomist Winslow, who twice was laid out as a corpse, and the eminent French cardinal and Senator Downet, who heard the whole burial service of the Catholic Church pronounced over himself.

In the course of time numerous signs of death have been announced—cessation of respiration, arrest of circulation, purple decoloration of the dependent parts of the body, parchment-like appearance of the places of the body denuded of epidermis, rigor mortis, the formation of a blister by the application to the skin of a hammer dipped in boiling water, and, best of all, putrefaction of the vital parts of the body. Besides simple signs of easy verification, there are others more difficult to test or less reliable, upon which time does not allow me to enter.

Of the first group, decomposition is the one irrefutable and reliable sign of death. Of the others, we can at best say that the more of them that are combined the surer is the evidence that a person is dead.

Our legislation concerning burial is all in favor of the survivors, and not a thought is given to the possibility of apparent death.

It is left to laymen, who happen to be present, when a person ceases to breathe to declare him dead. Ignorant midwives, this spot upon a civilized community, are allowed to sign death certificates.

The law does not prescribe even an inspection of the supposed dead body, much less any special tests to ascertain whether death is real or apparent. It does not in any way ask the signer of the certificate upon what ground he or she declares a fellow-being to be dead.

Is it so simple a matter to decide, and is it quite sure that every physician and every midwife whose signature consigns a person to the grave are quite familiar with the reputed signs of death?

As a matter of fact, many physicians do not even glance at the supposed bodies of their patients, but sign the certificates of death on the report of friends or strangers present at the supposed death.



What, then, is needed to put an end to this disgraceful remnant of barbarism?

Personally, I am in favor of *waiting mortuaries*, where bodies should be kept under proper supervision till decomposition has begun.

Some recommend *cremation*, which certainly is preferable to live burial; but how terrible must be the feelings of the apparently dead when he knows that he is going to be thrown into the all-consuming furnace!

In the absence of something better, I recommend the apparatus of Count Karnice as both ingenious and practicable; but since the person lying in his coffin, in the depths of the earth, even with admission of air and light, is in an unenviable position, great improvements are called for in the rules and regulations governing burials.

*First.*—Only authorized practitioners of medicine should decide whether a person is dead or not.

*Second.*—The blanks for certificates of death should contain questions in regard to the chief signs of death, and the physician signing the certificate should answer each question with "yes" or "no," besides declaring that he personally has examined the body.

*Third.*—It should be made a crime to do anything to the supposed dead that would cause pain or injury to a living person before the certificate is signed. As long as nothing of the kind is done, none of us have any guarantee that we will not be buried alive, thrown into a glowing furnace, or be killed by the performers of autopsies, the undertakers with their ice-box, or the embalmers with their solution of arsenic.

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Following Dr. Garrigues' paper, M. Emil Camis delivered a lecture on the life-saving apparatus "*Le Karnice*," of which we append abstract:

This apparatus is designed for the saving of people who are buried alive—*i. e.*, in those cases where, through the ignorance or carelessness of the medical attendant, people are buried alive; also in those cases where it is next to impossible to detect any evidences of life, where the relatives have buried the body before that infallible sign of death, mortification, has set in. The life-saving apparatus "*Le Karnice*" is composed of a tube four inches in diameter resting on the casket, and connected at the other end to a metallic rectangular box containing signals. The metallic box is alone visible above the ground, the other parts being buried in the soil. A metal rod passes through the axis of this tube plunging its lower end into the casket, and placed in communication with the signals of the metallic box at its upper end. The part of the rod plunging into the casket terminates with a ball which is placed from one and three-quarters to two inches from the sternum of the interred person.

Should a movement of the body in the casket take place the ball is displaced, a general simultaneous action takes place, the box is opened and the signals, bell, flag, shining ball are placed in motion or are displayed; the sound of the bell is sufficiently sonorous to attract the attention of the cemetery watchman. By a special arrangement the buried person also receives light and air through this apparatus, and his voice is carried through the tube and heard within a large radius. The apparatus can also be easily removed from the casket when it is desired to do so.

## SARCOMA OF THE CONJUNCTIVA, WITH REMARKS ON METASTATIC SARCOMA AND CARCINOMA OF THE CHOROID.\*

BY JAMES MOORES BALL, M. D., of St. Louis,

President of the St. Louis Academy of Medical and Surgical Sciences; Professor of  
Ophthalmology in the St. Louis College of Physicians and Surgeons;  
Oculist to the St. Louis City Hospital.

THE person from whom this eye was removed is Thomas H., colored, aged fifty, who was admitted to the St. Louis City Hospital on November 25, 1899. He is a farmer. The patient gives a clean family and personal history, and states that his left eye began to pain him about two years ago. The patient's account of the condition of his eye at that time is very unsatisfactory; in fact, he can give no information as to its condition for the last year except that within the last two months the eye has become swollen and painful.

I was asked by Dr. H. L. Nietert, superintendent of the St. Louis City Hospital, to see this patient on the day after his admission. The left eye was protruding one-half inch in advance of its fellow; the ocular conjunctiva and cornea were enmeshed by a new growth, which did not extend into or start from the orbit; the diseased eye moved in harmony with the normal one, the sight was lost, and the appearance of the patient was repulsive. His nose appeared unusually broad; on inspecting it I found both nasal chambers occluded by numerous polyps. The hospital record does not state how long the nasal obstruction has existed.

In looking at this case my first thought was that the exophthalmos had been caused by the intranasal growths, but the absence of any pressure from within the orbit caused this theory to be abandoned immediately. The mobility of the eye showed that, if any growth were present in the orbit, it must necessarily be either too small to produce the protrusion of the eye, or it must lie in or around the optic nerve. Exploration of the orbit by the finger gave no evidence of a new growth in the orbit. In view of these facts, coupled with the appearance of the tumor mass, I made a diagnosis of sarcoma of the conjunctiva.

The treatment of this case consisted in the removal of the eye and the ocular conjunctiva. After making the enucleation, I explored the orbit carefully, and could find no infiltration or any evidence of pressure from adjacent cavities. The patient has done well. For some days after the enucleation, he complained of headache. This was due to the intranasal pressure of polyps. They were not removed until several weeks after the enucleation, although I advised the hospital physician to call on a rhinologist at once. During this time symptoms of bilateral orbital cellulitis appeared, which yielded readily to treatment after removal of the polyps.

### PATHOLOGY.

Sarcoma attacks the eye, either primarily, secondarily, or by metastasis. Primary sarcoma of any of the ocular structures is a rare disease,

\* Read before the St. Louis Academy of Medical and Surgical Sciences, January 16, 1900.



the most frequent site being the choroid. Of choroidal tumors, one case is found of 2218 ophthalmic cases in Great Britain, according to the statistics of Berry.<sup>1</sup> Eighty-five per cent. of choroidal tumors are sarcomata,<sup>2</sup> and of these the pigmented are much more common than the leucosarcomata. I am unable to present statistics of the frequency of primary conjunctival sarcoma; but such cases are exceedingly rare—so infrequent that some text-books do not mention the condition, and some ophthalmologists have never seen a case. The most common malignant growth of the conjunctiva is the epithelioma; and only recently a noted French observer (Panas) contended that the so-called sarcomata of this structure are only epitheliomata of more rapid growth.<sup>3</sup> This view, however, is not



SARCOMA OF THE CONJUNCTIVA.

now accepted. As epithelioma attacks by preference those parts of the body where one tissue joins another, and one epithelium joins another, as the lips, anus, nose, etc., so we find that epithelioma of the conjunctiva begins at the limbus—*i. e.*, the corneo-scleral junction. Here there is not so much difference in the epithelial covering as in the character of the underlying tissues. An additional factor in the development of epitheliomata here is the peculiar arrangement of epithelium at this place—for in normal sections we often find the epithelium growing into the corneal tissue in the form of conical processes.<sup>4</sup> Sarcomata of this region are usually pigmented. These melanotic growths arise in those spots where pigment is normally present, and the limbus is one of these places. Starting from this point, the growth spreads over the entire ocular conjunctiva and covers the cornea. Often, however, the sarcoma does not form an in-

<sup>1</sup> Berry: Diseases of the Eye, p. 348. Edinburgh, 1889.

<sup>2</sup> Noyes: Text-Book of Diseases of the Eye, p. 589. New York, 1894.

<sup>3</sup> Norris and Oliver: System of Diseases of the Eye, vol. iii., p. 243. Philadelphia, 1898.

<sup>4</sup> Fuchs: Text-Book of Ophthalmology, p. 128. New York, 1899.

tegral part of the corneal tissue, at least not to any great extent, but lies on the cornea, from which the sarcoma can be lifted and removed by dissection in the earlier stages of the disease. The slowness of the extension of the growth into the cornea is explained by the non-vascularity and density of this structure. In its extension the sarcoma creeps along the blood vessels of the conjunctiva, and upon Bowman's layer under the epithelium of the cornea. The progress of the tumor into the parenchyma of the cornea or sclera is preceded by the formation of new blood vessels. Along these vessels the pigmented elements of the tumor creep, and the lamellæ of the cornea and sclera are destroyed. As regards the later history of such cases, Alt<sup>5</sup> says: "It does not seem to be known whether such new formations lead later on to rupture of the cornea, or whether they may grow into the interior of the eyeball." The growth of a sarcoma of the conjunctiva is slow. Removal of the growth at an early stage will sometimes never be followed by recurrence *in situ*, but after many years a similar growth may appear in another part of the limbus of the same eye, as happened in the case occurring in the clinic of Arlt, of Vienna.<sup>6</sup> As a rule, however, removal of the growth is followed by a return within a few months, and the eyeball must be sacrificed. Whether there is any relationship between sarcoma and nasal polypi, I am unable to determine; but it is an interesting fact that in the case herewith reported the patient's nasal chambers were filled with polyps, and a microscopic examination of the ocular growth showed it to be a small round-cell sarcoma partly undergoing myxomatous degeneration.<sup>7</sup>

Sarcoma and carcinoma of the choroid by metastasis are so rare that almost no literature can be found on the subject. As regards metastatic carcinoma of the choroid, Dr. Lagrange, of Bordeaux, reported to the Paris Ophthalmological Society, in 1898, a case of this character which makes the nineteenth on record.<sup>8</sup> I am unable to state how many cases are recorded of metastatic sarcoma of the choroid, but they must be few. Several years ago, in my service in the St. Louis City Hospital, I met with a metastatic sarcoma of the choroid which involved all the orbital contents and was sequent to a sarcoma of the leg. The condition of the eyeball is well shown in the mounted specimen now presented.

The rarity of metastatic growths in the eye is accounted for by anatomic conditions: the small size of the ophthalmic artery, and the fact that it is given off from the internal carotid at an angle of ninety degrees. Metastasis is more common in the left eye than the right, owing to the difference in the carotids. The left carotid receives emboli more easily than the right, inasmuch as it arises from the aorta directly. Metastatic growths arise most often at the posterior pole of the eye, owing to the greater caliber of the short ciliary arteries. Lagrange states that metastatic carcinoma of the choroid is usually a bilateral disease, and that it always shows itself first in the macular region. Of the nineteen cases recorded, in sixteen the primary carcinoma was situated in the breast, once in the stomach, and twice in the lungs. In five of these cases the disease was present in both eyes when the patients first came under observation;

<sup>5</sup> Alt: Lectures on the Human Eye, p. 74. New York, 1884.

<sup>6</sup> Fuchs: Text-Book of Ophthalmology, p. 128. New York, 1899.

<sup>7</sup> The microscopic examination was made by Dr. R. B. H. Gradwohl, of St. Louis.

<sup>8</sup> Medical Press and Circular (London), March 28, 1898.



in two the second eye became involved within a few weeks; in the cases in which the one eye only was attacked the left was the affected organ. In three cases only the right eye was the primary seat of the disease.

### SYMPTOMS.

A sarcoma of the conjunctiva begins as a small mass at the corneo-scleral junction. It is often pedunculated, soft and liable to bleed. It has a warty or mammillated, or possibly smooth surface. As a rule, its color is dark brown, or reddish-brown or almost black, except the leucosarcomata. De Schweinitz<sup>9</sup> speaks of their color as reddish-white, and this term describes my case. When first noticed the growth may be the size of a millet seed. The manner of the extension of these growths already has been explained. If permitted to remain they reach an enormous size, as in the cases delineated by Von Ammon<sup>10</sup> and other old writers. Weeks<sup>11</sup> speaks of the extension of these growths to the cervical glands and to distant parts by metastasis. Schmidt-Rimpler<sup>12</sup> says sarcomas of the conjunctiva form extensive lobulated tumors, which bleed readily.

The description given by most ophthalmic writers of the symptoms of this disease is very brief. Few of them speak of pain. This symptom seems to be present in the earlier stages only as a dull, heavy ache, but later becomes excruciating and extends throughout the corresponding side of the head.

### DIAGNOSIS.

The diagnosis of the nature of a growth in the conjunctiva may be difficult or impossible in the early stages; in fact, it may be impossible to make a diagnosis until after removal and microscopic examination. Many benign growths occur in the conjunctiva; among which are dermoid, lipoma, polypi, papilloma, granulation tumors, angiomas, osteoma, cysts, cysticercus, and lymphectasia. The malignant growths are sarcoma and epithelioma. I will attempt to give briefly the characteristics of each of these growths:

*First.*—The dermoid tumor is congenital, usually is a flat solid growth with a reddish or whitish color; is situated partly in the conjunctiva, partly in the cornea, and is anchored to the latter. Often the surface is dry and covered with downy hairs. Frequently other congenital anomalies are present. This tumor is practically an island of skin planted on the eyeball. Histologically it presents a connective tissue stroma, covered with epidermis, and containing hair follicles, sweat and sebaceous glands. If thoroughly removed it does not return.

*Second.*—Another congenital growth is the lipoma, which may be single or multiple. These tumors often are quiescent until the time of puberty, when they begin to grow. A lipoma is covered by conjunctiva, is movable upon the eyeball, presents a yellowish color, and usually forms only one tumor mass, but exceptionally is lobulated. It may reach the size of two

<sup>9</sup> De Schweinitz: *Diseases of the Eye*, p. 261. Philadelphia, 1899.

<sup>10</sup> Von Ammon: *Klinische Darstellung der Krankheiten des Menschlichen Auges*, Tabulae IX., XI., and XII. Berlin, 1838.

<sup>11</sup> Weeks: *American Text-Book of Diseases of the Eye, Ear, Nose and Throat*, p. 302. Philadelphia, 1899.

<sup>12</sup> Schmidt-Rimpler: *Ophthalmology and Ophthalmoscopy*, p. 391. New York, 1889.

centimeters in length by one centimeter in breadth, but is generally half this size. Usually this is the only growth present, but Fuchs<sup>13</sup> shows an illustration of a subconjunctival lipoma and a corneal dermoid in the same eye of a girl aged thirteen; and Burnett,<sup>14</sup> under the name dermolipomata, describes tumors containing both fat and skin elements. These tumors do not return after removal.

*Third.*—The polypi, papillomata, and granulation tumors can be described together. Polyps are soft or semi-solid pedunculated tumors, covered by mucous membrane, and generally spring from the fornix. Usually small and hidden, they may grow and project from between the lids. They may become ulcerated. Histologically they are small fibromata pushing the conjunctiva in front of them. The papillomata spring from the caruncle, are composed of connective tissue and blood vessels, and bleed easily. They are not smooth like the polyps, but present a papillary, nodulated or cauliflower-like appearance, have a broad base, and are likely to recur. The granulomas resemble polyps, but differ in this respect: that they are not covered by conjunctiva, but are naked granulation masses. They arise from surfaces made raw either by ulceration or operation; are often found after an operation for strabismus, enucleation, or chalazion. They cause bloody tears and many of the miraculous instances of bloody lachrymation can be thus explained. They are soft, irregular on the surface, but often become smooth from friction. They may expand so as to cover one-half the inner surface of the upper lid. They should be removed by the scissors and the base cauterized. If this be thoroughly done they do not return.

*Fourth.*—Primary angiomas of the conjunctiva are very rare, are congenital, and increase in size after birth. They spring from the caruncle. The angiomas found about the eye usually spring from the eyelid or depths of the orbit. I have seen one case of angioma of the retina involving also the tissues of the orbit and side of the face. Enlarged tortuous veins in the conjunctiva are often present in glaucoma and in the eyes of alcoholics. True varix is sometimes seen as a blue mass of veins, pyramidal in shape, the apex pointing towards the cornea. Phleboliths have been found in these masses. Pressure will empty these tumors, and ligation is the proper treatment.

*Fifth.*—Very rarely osteoma or fibro-osteoma has been found in the conjunctiva of young subjects. They are presumed to be congenital.

*Sixth.*—Cysts of the conjunctiva are usually small vesicles. Those found in the ocular conjunctiva generally arise from dilated lymph vessels. Larger cysts beneath the mucous membrane arise from the cysticercus cellulosa. They are generally found in children or young subjects. Early in its history the cyst is transparent and the head of the animal may be seen. The overlying conjunctiva becomes inflamed and opaque, thus making the diagnosis difficult. The most common site for such a cyst is beneath the ocular conjunctiva. Rarely is it found in the fornix or palpebral conjunctiva. Juda,<sup>15</sup> of Amsterdam, has recorded an interesting case of cyst of this character in a boy six years old. The cyst occupied the space between the cornea and caruncle. Cysticercus is rare in all countries ex-

<sup>13</sup> Fuchs: Text-Book of Ophthalmology, p. 125. New York, 1899.

<sup>14</sup> Burnett: System of Diseases of the Eye, vol. iii., p. 239. Philadelphia, 1898.

<sup>15</sup> Juda: Annales D'Oculistique. March, 1895.



cept Iceland, Finland, Northern Germany, and Manitoba. The parasite may be found in any part of the eye or orbit. In Northern Germany, Graefe saw eighty cases in eighty thousand cases in the deeper parts of the eye; three in the anterior chamber, five beneath the conjunctiva, and one in the orbit. Only two or three cases have been seen in the United States.

Burnett has recorded an interesting case of hæmatoma of the conjunctiva. The tumor was the size of a pigeon's egg, filled with blood, and communicated with the interior of the eye by a small opening. Simple cysts of the conjunctiva have been traced to a dilatation of a gland of Krause by Rombolotti,<sup>16</sup> of Pavia, and others.

*Seventh.*—The lymphectasiæ result from dilatation of the lymph channels of the conjunctiva. The lymphatics appear like small transparent beads, generally placed in the palpebral fissure, midway between the cornea and canthus. Leber reported one case in which the lymph was periodically mixed with the coloring matter of the blood lymphectasia menorrhagica.

*Eighth.*—It is between the epitheliomata and sarcomata that the difficulty in diagnosis is greatest. On this subject our books are strangely silent. After a perusal of the works of MacKenzie, Williams, Swanzy, Stilling, Hansell and Bell, Schmidt-Rimpler, De Schweinitz, Noyes, Fuchs, Wells, Stellwag, Oliver, Roosa, Fick, Berry, Juler, Thompson, Nettleship, and others, including Norris and Oliver's monumental "System of Diseases of the Eye," I am of the opinion that the literature of conjunctival neoplasms is very deficient. Some man, with large clinical experience, accurate pathologic knowledge, and leisure, can make a reputation in ophthalmology by working in this field.

I do not know of any way by which a clinical diagnosis between epithelioma and sarcoma of the conjunctiva can be made at an early stage. In the case reported this evening, although inclining to the diagnosis of sarcoma, I was not sure until after the microscopic examination. If diagnosis is difficult in so advanced a case, one can well believe it to be impossible at an early stage.

#### PROGNOSIS AND TREATMENT.

If the new growth lies superficially it can be excised and may never return, or may recur after a long interval. Meanwhile the patient has the inestimable advantage of the use of the eye. If the growth has involved the sclera, the surgeon must make a more radical operation. If the scleral involvement is small, the cornea together with the diseased sclera can be cut away and an artificial vitreous inserted according to the method of Mules. This will insure reasonable immunity from return and the patient will have a good stump for an artificial eye. If the sclera is extensively affected an enucleation must be made. Of course, the reader understands that these remarks apply to cases of conjunctival and subconjunctival growths—not those arising from the periphery of the iris or the ciliary body.

In metastatic carcinoma and sarcoma of the choroid, death is sure.  
3509 Franklin avenue.

<sup>16</sup> Rombolotti: Archiv für Augenheilkunde. June, 1895.

## NEW YORK LETTER.

**Governor Roosevelt's Message to the Legislature.**—In the Department of State Commission in Lunacy progressive improvement has been made, accommodations increased and improved, and the annual increment of permanent cases has been diminished. While the reduction of the cost of maintenance the past year from the per capita of \$185.20 in 1898 to \$178.42, in the face of general advance of prices, and contrasted with \$216 before the State Care act, is satisfactory, it is of far more importance that the annual increase of patients in hospitals is steadily decreasing; in 1899 it was 529, in 1898 it was 634, in 1897 it was 733. These figures allow but one conclusion—better care of the insane.

**State Care of Consumptives.**—A special committee, consisting of Harvey W. Putnum, of Buffalo, Enoch V. Stoddard, of Rochester, and Stephen Smith, of New York, was recently appointed to investigate this subject, and they will recommend that every locality able to have a hospital for consumptives should have one, and that the State should erect and maintain one or more hospitals, where localities unable to maintain local hospitals might send their patients and pay for their care and maintenance. They will also recommend that local boards of health should have more power in dealing with consumption; that it should be declared a contagious disease, and that the boards of health should have the power to establish rules and regulations to protect from contagion the public and members of families in which the disease exists. The committee, in conclusion, will say that the establishment of one or more State hospitals would prove a great benefit to the State.

**Must Cremate Its Garbage.**—It has been about decided that New York must cremate its garbage. Dr. Alvah H. Doty, Health Officer of the Port of New York, has agreed to furnish Governor Roosevelt full details of a plan for such disposal in a few weeks. Dr. Doty has recently returned from Europe, investigating this important subject, and he was most impressed with the method employed at Hamburg.

**To Purify Croton Water.**—New York's supply of water is not dangerous in the sense of causing any specific disease. Pathogenic germs have not been found in it, but the water is disagreeable in many ways, being unpalatable and unfit really for washing of persons or clothes. It has been suggested that the water be filtered; but one should remember that it would take a bed of an enormous extent to filter the supply of New York City, probably one covering several acres. Then, the sand must be at least four feet deep, and, to provide such a thing, would be a very great undertaking. In creameries centrifugal force is employed to separate the cream from the milk. Why would it not be a good plan to utilize this same force to get rid of any impurities in the water? In the streams of the water-shed there is abundant power to run the machinery. To be



sure, the cost would be great, but nothing as compared to the benefits that would accrue from it.

**Want Death Penalty Abolished.**—Dr. Abram Jacobi, before a recent meeting of persons who were opposed to the death penalty and who had met to organize, stated that he was present because he believed that the death penalty was no protection to society and never had been; he believed that most, if not all, murderers were insane, some showing their insanity superficially, and so being spared; others, in whom it did not appear so openly, were held responsible for their actions. He believed that at least two-thirds of the physicians in this community were opposed to the death penalty for crime.

**Officers, Section on Practice of Medicine, New York Academy of Medicine.**—For the ensuing year John H. Huddleston, M. D., Chairman; E. Franklin Smith, M. D., Secretary.

**Clinical Lectures on Skin Diseases.**—Dr. Duncan L. Bulkley is continuing the course begun last November, and the interest is shown by the large attendance each week. Your correspondent has seen the large room so crowded that the aisles were filled and many turned away from the doors. Doctor Bulkley is certainly an able and entertaining man, and gives the doctors present many valuable hints of great practical value.

**The following incident** actually occurred in one of the New York training schools for nurses: A young and inexperienced nurse was given some two dozen surgeon's needles to clean. After a short absence she returned and delivered to the surgeon two needles. Upon inquiry as to the whereabouts of the remainder, she replied that she had thrown them away as she did not see the use of "those crooked needles," for surely no one could sew with them.

**Tetanus.**—At a recent meeting of the New York Surgical Society, Dr. Robert Abbe presented two boys who had been treated for tetanus during the past summer. Dr. John Rogers, Jr., reported cases treated by both the board of health antitoxin and that manufactured by Parke, Davis & Co., all the cases progressing to a fatal termination. Dr. George B. Fowler reported a case in which injections were made into each lateral ventricle, supplemented by subcutaneous injection into the buttocks. No improvement followed. He said that our experience with the antitoxin was still too limited to enable us to determine whether the antitoxin will bear out, clinically, the hopes that have been held out to us in its behalf. Dr. Willy Meyer reported a rather severe case occurring during the epidemic in this city of last summer, in which fully 100 c.c. of the antitoxin was injected at different times into the subcutaneous tissues of the thighs, abdomen and infraclavicular regions. Recovery followed. He favored the method of Kocher, who drills a small hole through the skull, and so introduces the antitoxin. He said the most of the cases seen last summer were due to gunshot wounds, and he thought it might have been due to the use of impure powder. Dr. Royal Whitman referred to the epidemic

occurring in 1881, in Boston; this was caused by gunshot wounds, and the board of health there was compelled to prevent the sale of toy pistols on this account. Dr. A. B. Johnson said that if we accept what he believed to be a well-established fact, namely, that the poison of tetanus, after entering the blood, is partly taken up by the nerve cells, while some of it may still be circulating in the blood, we must acknowledge that there will be a goodly number of cases of this disease which will be incurable by any method of treatment. The antitoxin does not affect nerve cells already involved, but he thought it did protect those not involved, at the same time destroying the poison still circulating in the blood.

324 West Forty-sixth street.

E. FRANKLIN SMITH.

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**The Seven Senses of Fishes.**—According to Mathias Dunn, in the *Contemporary Review*, fish are aided by at least two extra senses which he believes to be located in the so-called lines or dermal tubes which run down the sides from the brain, meeting at the tail. According to Dunn, the sea is not always a crystal-clear medium. It is often foul and beclouded with dirt, at which times the sense of sight is of no avail, and so other means of protection must be available. He says all of the senses (of the fish) are tactile. The five organs in use in the heavier element must be toned and modified to receive impressions in keeping with the weight of their surroundings; and this must entail a dull record of life without some other additions, except possibly in the case of the sense of smell; but in the sixth and seventh senses the balance is fully made up to most of the fishes through their calling in the use of magnetism and electricity. The sixth sense of the fish, according to Mr. Dunn, is the "electric dermal sense," and has for its object, he asserts, the foreknowledge of coming storms. For when the storms send their earth currents along the deep far ahead of the storm's course, the fishes in the tract of this storm, with their electric dermal sense, instantly know whether there is going to be a gale storm or tempest which is coming, and act accordingly for their protection. The seventh sense, according to this writer, is called the "magnetic dermal sense," located in the same lateral lines or dermal tubes from brain to tail. The purpose of this sense, he thinks, is to act as a compass in the fish's journeyings, keeping him in his course and warning him of the proximity of the coast. He believes that electricity and magnetism play a high part in the life-history of fishes. He says all basic rocks along a coast are highly magnetic, and, further, that the magnetic power of such rocks is intensified by friction. Thus the basic beaches, brought into motion by storms, increase their magnetic power to an almost incalculable degree—hence he infers it often affects the compasses of passing ships, and, in fogs, leads them on to destruction.



## ABSTRACTS.

### **Treatment of Chronic Urethritis with Instillations of Picric Acid.—**

Desnos and Guillon (*Journal des Maladies Cutanees et Syphilitiques*, October, 1899) report favorably upon the action of picric acid in the treatment of chronic urethritis, especially that of the posterior variety. They give a review of the general utility of picric acid in the treatment of burns, erysipelas, epithelioma, etc. It was Cheron who first called attention to the treatment of urethritis in the female by means of intravesicle irrigations with picric acid. Many cases have been reported cured within from ten to twenty days by this procedure. The objections to the use of this drug, as a rule, are the toxic effects which have been known to follow its use in some cases. This is supposedly due, however, to some error in therapeutical technique whereby too much of the drug has been administered. With the avoidance of this, all toxic effects can afford to be disregarded.

These two writers use the drug in the following way: from ten to twenty cubic centimeters are injected into the posterior urethra by means of a Guyon instillator. A one-half or one per cent. solution of the picric acid in water is the preparation used by them. No disagreeable after-sensations are recorded, with the exception of a slight burning, which quickly passes away. The instillation should be repeated every other day until cure is effected. In chronic urethritis, uncomplicated by stricture, good success followed in every instance; and in some of the cases where there was an organic stricture, amelioration was noted in a few instances; and no favorable action in about three or four cases. Taken all in all, the action of the drug was good, and much is to be expected from its use in the treatment of obstinate cases of chronic urethritis.

### **Typhoid Fever Complicated by Suppurating Thyroid Gland and Orchitis.—**

(F. Alan G. Murphy, of Baltimore, Maryland, *Phila. Med. Jour.*, December 16, 1899.) It was a typical case of typhoid fever. The thyroid swelling began about the fourteenth day of the sickness and went on to suppuration. From the pus from this source a pure culture of a bacillus identical in all respects with the bacillus typhosus was isolated. Widal's reaction made with this bacillus failed to react positively. This failure was probably due to the fact that the test was tried late in the disease, and the patient's own blood was used, instead of using blood from some other case of typhoid fever, as is usually done under similar circumstances.

Another complicating factor in this case was an orchitis, which arose and subsided without suppuration. This is the first instance on record in medical literature of two such unusual complications in typhoid fever as suppurative thyroiditis and orchitis. There are only ten cases of thyroid abscess, and thirty-two of orchitis occurring separately in typhoid fever.

**Prostatic Abscess Due to the Pneumococcus.**—Guillon, of Paris (*Le Progres Medical*, November 11, 1899), reports a very interesting case. The history of the case shows that the man had chronic urethro-cystitis with stricture for a number of years. Four days after treatment by dilatation he had a light attack of broncho-pulmonary grippe. Then followed some prostatitis, but with no signs of pus formation. Some days after that he was seized with a sudden chill, and examination revealed the pres-

ence of a fluctuating abscess in the prostatic region. The pus was evacuated and uneventful recovery followed.

Bacteriologic examination of the pus revealed the presence of the pneumococcus in pure culture. This is the only case on record of prostatic abscess caused by the pneumococcus. The writer does not attempt to explain how infection of that kind ensued.

**A Form of the Diplococcus Scarlatinæ Not Previously Described.**—W. J. Class, of Chicago, writes of an involution form of the diplococcus scarlatinæ not previously described by him, and says that it looks very much like the influenza bacillus, but upon close scrutiny we can see that it is an elongated diplococcus. The reasons given by him that it is not a contamination are:

*First.*—Because it is impossible to isolate it, although numerous attempts have been made.

*Second.*—It has never been found by him except in cultures of the diplococcus scarlatinæ.

*Third.*—It is very seldom found in primary cultures of this organism, occurring as a rule in subcultures in which the large diplococcus has divided into smaller organisms.

*Fourth.*—Because when a culture of the diplococcus containing this form was injected into mice, the organism obtained in primary culture from its blood and organs was a diplococcus which did not show this form, although in subcultures it again appeared.

*Fifth.*—Because in subcultures made from cultures in which this form was present in comparatively large numbers it was not found, thus showing that it could not have a separate existence.

*Sixth.*—Because the mode of division of the diplococcus into these diplococci can be seen in stained specimens of the organism.

**An Epidemic of Intercostal Neuralgia.**—Reilly (*New York Medical Record*, November 25, 1899), reports an epidemic of intercostal neuralgia accompanied by herpes. The course of the disease in most of the cases was virtually the same, consisting in the appearance of pain about the intercostal spaces, with fever, general malaise, etc., with the addition of a herpetic eruption on the second or third day. The attack of pain recurred in a paroxysmal way, four paroxysms being the largest number noted in any single case. Fourteen such cases were noted by this observer during a period of five weeks. In these cases the herpetic eruption was not entirely confined to the course of the intercostal nerves, but appeared on the face or mucous membranes in some cases, and not along the course of the intercostal nerves; this was true especially of the severest cases. This finding is opposed to the generally accepted proposition that the herpetic eruption must needs appear over the nerve tract of the painful region.

No logical explanation has yet been found having an etiologic bearing on such cases. It is true that it has been associated with the finding of the malarial plasmodium in the blood of some of the patients affected, but this is not true of all cases. Kaposi thinks the outbreaks are influenced by atmospheric conditions; but at the time of this epidemic there were no unusual meteorologic conditions to explain it.



## MEDICAL NOTES.

**The Bactericidal Action of Argentamin.**—(By Dr. Karl Hoor, *Centrallb. f. prak. Augenheilkunde*.)—A series of experimental and clinical researches were made by the writer during the past three years in an endeavor to arrive at some sort of a conclusion as to the relative efficacy of argentamin, as compared with silver nitrate, in ophthalmological practice. After an exhaustive investigation he arrived at the following conclusions:

1. Argentamin exercises a more decided bactericidal effect upon a greater variety of micro-organisms than does silver nitrate.

2. Argentamin has a greater penetrating action on the tissues than silver nitrate.

3. It reduces inflammatory process and causes contraction of the tissues more readily than does silver nitrate.

4. A five or ten per cent. solution of argentamin causes no irritation of the conjunctival tissues, whereas silver nitrate *does*. The reaction of argentamin, which is alkaline, is responsible for this fact.

**Heroin in Cough.**—Charles Herwisch (the *Therapeutic Gazette*, November 15, 1899) reported favorably upon the action of heroin in coughs, in acute and chronic bronchitis, and in phthisis pulmonalis. The dose used was one-twelfth grain, repeated three times daily. He deduces the following:

Heroin is a very valuable addition to our *materia medica* in acute as well as in chronic bronchitis and the cough accompanying pulmonary tuberculosis. The drug acts well in most cases. The number of respirations was diminished, and no drug habit was formed, even after using the drug for a considerable length of time. In but one case was there a tendency to induce constipation, and in only one case was a feeling of drowsiness produced by its administration. No headache or disorders of the stomach were produced. The dose is much smaller than that of morphine or codeine, and the drug is much cheaper; a great advantage where the drug has to be used for some time, as in phthisis.

Of late, the hydrochlorate of heroin, soluble in water, has come into the market, which is adapted for hypodermic use, in that way acting much more rapidly than when given by the mouth.

A new habit has developed in this case; it is the so-called "ether habit." It is said that the amount consumed in one year in the town of Memel alone was 8560 liters. The effect is more potent than that of alcohol, and produces serious lesions of the heart, kidneys and liver.

In difficult diagnosis between measles and scarlet fever, look to the region of the nose and mouth for differential points. In measles the region of the nose is occupied by the eruption, while in scarlatina the lips begin to peel.—*Med. Times*.

Lefevre collected quite a number of cases of sterility in the female, due to pathological conditions about the cervix and uterus. Proper

treatment, such as curettement of the mucosa in endocervicitis, adjustment of a pessary in acute antelexion, etc., brought about a cure of the condition.

**Dr. William Sweet** (*N. Y. Med. Jour.*) reports a case of blindness due to intestinal hemorrhage. The supposed cause of this and similar conditions is a fatty degeneration of the nerve fibers due to the ischemia.

**The hygienic treatment of enuresis in children**, according to Stumpf (*Lyon Medical*), consists in elevating the patient's hips and lowering the head. After following this procedure for three or four weeks, cure is effected.

**R. E. Hinman** (*N. Y. Med. Times*) has recommended the use of a one-per cent. spray of formalin in the neighborhood of a patient suffering with whooping-cough.

**Caccianiga** (*Gazz. degli Ospedali*) has administered nitrate of silver in six consecutive cases of acute pneumonia, with the result that in all of them crisis occurred within two days.

**Opitz** (*Cent. F. Gyn.*) reported and showed the uterus of a patient who, without any temperature or pulse symptoms, suddenly dropped dead ten days after delivery, the death being due to embolus of the right pulmonary artery.

**Besson** (*Jour. A. M. A.*) lays considerable stress upon the harmful effects of compression of the heart by pleural effusion when it is the seat of valvular lesion.

**Hot baths** are very efficacious in the broncho-pneumonia of children, according to Jurgenson.

**In lobar pneumonia** it has been found of considerable value to utilize the X-rays in defining the areas of consolidation. The picture on the fluorescent screen varies from day to day as the consolidation decreases and resolution sets in.

**William Osler** (*Brit. Med. Jour.*) reports two cases of hypertrophic cirrhosis of the liver with hemachromatosis. Much pigmentation of the skin existed in both cases, but no diabetes. There are twenty-four cases of the so-called bronzed diabetes on record, but in the cases above recorded no diabetes existed.

**H. J. Jervis** (*Brit. Med. Jour.*) reports favorably upon the treatment of tropical dysentery by the use of magnesium sulphate.

**The hypodermic administration of quinin sulphate**, ten grains, dissolved in half its bulk of tartaric acid, in ten minin doses, is recommended in the treatment of comatose and cerebral forms of remittent fever.  
—*Risk*, *Brit. Med. Jour.*





**A Treatise on Surgery, by American Authors.** Edited by ROSWELL PARK, M. D., Professor of Surgery in the University of Buffalo, N. Y. New condensed edition in one royal octavo volume of 1262 pages with 625 engravings and 37 full-page plates in colors and monochrome. Cloth, \$6.00, net; Leather, \$7.00, net. Lea Brothers & Co., Philadelphia and New York.

This new edition of Park's Surgery is nothing more nor less than a condensation of the first edition, which appeared in two volumes. The two volumes have been condensed into one, with no loss in the value of the book as a surgical text-book, save for the fact that the sections are not treated so extensively as they were in the other edition. It nevertheless answers all of the requirements that the needs of the student or practitioner would demand of it. The great success of the first edition is in itself sufficient recommendation of this second edition in a condensed form. It is quite novel that the two editions should be extant at the same time, as they are. Nothing seems to have been neglected in the compilation of this work; a glance at the names of the editors would almost persuade one to that belief, even before he delved into the valuable reading matter.

**Progressive Medicine, Vol. III.** A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 440 pages, 11 illustrations. Lea Brothers & Co., Philadelphia and New York.

The object of the publishers in bringing forth these volumes of "Progressive Medicine" is to furnish to the busy medical readers material from which they can glean in a few moments ready, up-to-date information on any of the varied phases of the medical and surgical sciences, as the result of the collaboration of representative men in each department, embracing in their reports not only an epitome of each subject but also an editorial comment on the same, vouched for by their own personal experience. Needless to say, this makes a very valuable collection of volumes for the medical man, and a collection which all should have at their disposal.

**Progressive Medicine, Volume IV.** A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 398 pages, 51 engravings and 5 plates. Lea Brothers & Co., Philadelphia and New York.

This fourth volume of "Progressive Medicine" deals with the following subjects: Diseases of the Digestive Tract and Allied Organs, The Liver, Pancreas and Peritoneum; Genito-Urinary Diseases in the Male, and Syphilis; Fractures and Dislocations; Diseases of the Kidneys; Anatomy; Physiology; Hygiene; Practical Therapeutic Referendum. It fully comes up to our expectations in the way of a *resume* of the progress that has been recently made in these departments of medicine, as well as the mature opinions of the collaborators, which are in themselves worthy of careful reading. The subjects are presented in a very readable form and the constant effort of the editors seems to have been accomplished—*i. e.*, an endeavor to sift the good matter from the bad and to present to the readers only what is *reliable* in the way of recent work in medicine.

**The Abdominal Brain and Automatic Visceral Ganglia.** By BYRON ROBINSON, B. S., M. D., Chicago, Ill. Author of Practical Intestinal Surgery; Landmarks in Gynecology; Life-Size Chart of the Sympathetic Nerve; The Peritoneum, its Histology and Physiology; Colpoperineorrhaphy and the Structures Involved. Professor in Chicago Post-Graduate School of Gynecology and Abdominal Surgery; Professor of Gynecology and Abdominal Surgery in the Harvey Medical College, and in the Illinois Medical College; Gynecologist to St. Anthony's Hospital; Consulting Surgeon to the Mary Thompson Hospital for Women and Children. Chicago: The Clinic Publishing Co. 1899.

This work takes up a very interesting department of medicine: the study of a particular part of the sympathetic nervous system. During late years a great deal has been said and written about the varied functions of this system. The book in hand deals with the recent literature upon the subject, together with quite a vast amount of new thought belonging to the author. It is quite interesting and valuable reading matter for the up-to-date doctor.

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**In order** to prevent much of the shock that often follows surgical operations, see to it that the temperature of the operating room is about 70° Fahr., that the patient is warmly and comfortably clothed for operation; that strychnine be administered hypodermically, and that hot saline solution be injected into the rectum.

**R. Lepine** records an account of the successful use of sodium bicarbonate, by intravenous injection, as a preventative of diabetic coma. The patient was on the verge of diabetic coma and, by the intravenous injection of two quarts of water containing in solution 300 grains of bicarbonate of sodium, the attack was warded off. A similar case by the same author was recorded some time in the preceding year. The diabetes of which the patient was a subject of course continued, being in no way ameliorated by this procedure.



## SURGICAL SUGGESTIONS.

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**It seems** to be a good thing to examine and remove the appendix vermiformis in all abdominal sections, thereby preventing the likelihood of the occurrence of a future appendicitis.

**Do away** with iodoform except in tubercular and specific troubles. Its ordinary use is not of much value, and its indiscriminate use is productive of much harm. There are other things much better.

**The use** of absolutely pure water for the sterilization of instruments prevents dulling the edges of cutting instruments.

**Tubercular** abscesses about the knee-joint should be drained, as they are nearly always the result of mixed infection, as proved by repeated bacteriologic examinations.

**The Bottini** operation for the relief of hypertrophy of the prostate gland has gained a permanent place in up-to-date surgery. It overcomes the obstruction in most cases and is an operation with a mortality comparatively *nil*.

**In contused** and lacerated wounds, drying of the tissues should be avoided, and all contused parts should be cut away. Salt solution should be used to wet the tissues in order to prevent the action of pathogenic bacteria.

**Transplantation** of epiphyseal cartilages is a good means of overcoming probable shortening of bones.

**In uretero-vaginal** fistula, repair through the vagina should be first tried. Failing in this, immediate repair by anastomosis or implantation into the bladder should be preferred.

**In injuries** to the ureter during operations, tying the end of the ureter with a view of atrophy of the kidney is not good surgery; either uretero-ureterostomy or implantation into the bladder, bowel or skin should be practiced.

**For hemophilia**, pour sterile liquefied ten per cent. gelatin upon the bleeding parts. It often succeeds in checking hemorrhage where all other means fail.

**For the** removal of foreign bodies from the ear and nose insert a piece of India-rubber tubing into the nose until it comes in contact with the body, attach an aspirating syringe to the distal end, withdraw the piston and the body will enter the tube, and can be removed in that way.

**To prevent** hernia following abdominal sections leave the stitches in for one month, if the woman is thin enough to allow the use of through-and-through sutures; or use non-absorbable buried ligatures when the woman is fleshy enough to require two layers of sutures.

## NEW REMEDIES.

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**Subinvolution Non-Surgically Treated.**—How to successfully handle gynecological cases is a problem that confronts us all in the medical profession; but to the physician practicing in the small towns and rural districts the problem is vastly more serious. We, in the cities, know that our female patients will, when necessary, submit to proper local treatment of their pelvic disorders. Those of us who have had the experience of a country practice know how hard it is to get them to take necessary treatments, even as the last resort. False modesty, I think, is the cause, in a large measure; and this, I believe, prevails more in the country than in cities. Lack of confidence in the ability of the local talent is also a large factor. Fortunately for the patient, we are able to accomplish a great amount of good and perform many cures in even obstinate cases without compelling the patient to submit to successive exposures in the application of depleting tampons and the necessary repetitions of surgical dressings and applications following curettement. Of course, in such cases we must frequently be working quite in the dark, though we can often arrive at an approximately correct conclusion by eliciting the symptoms. Depletion can be accomplished and subinvolution reduced, leucorrhœa, and even endometritis and parametritis cured by a careful and persistent following of a properly prescribed home treatment.

A case occurs to me at this writing of a lady who sought treatment for general debility. Questioned, she stated that her age was nineteen and a half years, was married and had two children, one two years of age and one two months of age. She did not nurse the baby. She complained of constant severe aching soreness in the lumbar region; pain in the lower abdomen increased on pressure; bowels, strange to state, in the case of a woman, regular; persistent headache; no appetite—ate regularly from sense of duty; very anæmic. After much urging, patient submitted to examination. Breasts large and free from milk, slight watery fluid exuded on squeezing the nipples. The womb was large, open, very much inflamed both externally and internally. The cervix had the appearance of a granular surface and oozed blood on contact with the sound. The cervix exuded a clear elastic mucus in considerable quantity. The womb was large and heavy. She was not living with her husband.

I explained the condition of affairs to the patient, and told her what the probable results would be if it was not properly treated, and explained the nature of the treatments. Patient returned the second day, but declined further exposure or local treatments by physician, giving as reasons that she was too nervous and could not submit to the pain—besides, she objected to repeated exposures. I then told her that her fate was in her own hands. I would give her the best advice I could under the circumstances, but could not promise more than relief. I prescribed Micajah's medicated uterine wafers, twenty, and directed her to insert one into the vagina up to the cervix every second night on going to bed, for two weeks. Every morning, following the use of the wafer, directed her to take a vaginal douche of one or two quarts of hot water. After two weeks I instructed her to insert a wafer every third night and follow with the douche in the morning. This I had her continue for six weeks. Her improvement was almost immediate. After a few days the backache de-



creased, her appetite returned, and her headaches ceased. In about ten days the leucorrhœa was well under control, and in a month she was practically well. I had her continue the treatment for two months in order to be as sure as possible of the permanency of the benefit. At the end of this course of treatment she submitted to an examination, which showed a healthy cervix of normal size.

This article is no plea for carelessness in the handling of pelvic troubles. The writer has very little patience with women, as a rule, who will not undergo the necessary exposure incidental to proper treatment of their ailments. It is designed solely to point a way by which many may be cured in spite of their false modesty or the dread of pain.

G. HOWARD THOMPSON, M. D.,

*Professor Materia Medica and Experimental Medicine,  
St. Louis College Physicians and Surgeons.*

**Hot Air (Medicated) Inspirations in Catarrhal Conditions.**—There are two reasons why our treatment of non-obstructive catarrh of the respiratory tract is not more satisfactory: remedies are not applied often enough, nor kept in contact long enough. When we treat an external sore we bind on it a powder or a salve or solution, which is constant in its effect; but in our applications to the nose or larynx, are content with a swab or spray at intervals of twice or thrice a week, medicaments that are soon neutralized or washed away by the increased mucus they stimulate. The pathologic conditions are similar enough to invite similar consideration. Inflammation is the offense we would subdue. So it is said we cannot cure catarrh. We deserve the reproach for our paucity of rationalism.

Medicated hot air, as administered through the Underwood inspirator, I consider a valuable adjunct to our therapeutic resources in the treatment of such conditions. Its effect is anti-zymotic, anti-fermentative, and therapeutic. There are those who do not employ inhalations in the deeper affections of the respiratory passages because they do not believe they reach the seat of the disease. It is not necessary that they should to effect the morbid process. A diseased and obstructed nose can produce a diseased pharynx and larynx. When we have "removed the cause"—the disease in the nose—the pharynx and larynx will recover themselves. Again, the Eustachian tube may be congested from extension from the post-nasal space—make the space healthy and the tube gets well. Remove a nasal affection and benefit a laryngitis; restore the larynx and cure a tracheitis. Health may be catching as well as disease; both may extend by continuity of tissue. This is one of the rules in medicine that "works both ways."

I have had most excellent results with the Underwood inspirator in certain catarrhal affections of the respiratory passages. When used daily, in sittings of from twenty minutes to half an hour, the contact is constant through this period. There is a gradual absorption certainly far more effective than if the remedies are smeared or spread on to be speedily washed away. When this precaution is observed, to keep the patient indoors for at least half an hour, and the latter is careful to breathe with mouth closed when he first exposes himself to the cold air, no untoward results are ever observed.

FAYETTE C. EWING, M. D.,

*Fellow of the British Rhinological, Laryngological  
and Otological Association.*

**Thermol.**—Thermol is a white crystalline, odorless and tasteless alkaloid having a chemical formula  $C_{14}H_{15}NO_3$ . It is little soluble in cold water, more so in boiling water, and very soluble in alcohol. It is highly recommended as a *heat dissipator*. It is a distinct and definite alkaloid. It has both antipyretic and analgesic properties, and is recommended as a safe and non-cumulative remedy. Dosage is from five to fifteen grains.

**Euphthalmin.**—(By Winselman, Berlin, *Klinischen Monatsblättern für Augenheilkunde*.)

An ideal mydriatic for diagnostic work should combine the following properties:

1. It should dilate the pupil quickly and promptly.
2. It should not influence accommodation.
3. It should not increase intra-ocular pressure.
4. No toxic effects should follow its use in practice.
5. It should produce no irritation of the conjunctiva or cornea.
6. It should act in the shortest possible time.

As substitutes for atropin in diagnostic work we have used cocain, homatropin, and ephedrin. The main objections to cocain are as follows: In many cases it fails to produce mydriasis; it influences accommodation in many cases; it often damages the corneal epithelium, and its effects last for thirty-six hours or more.

As objections to the use of homatropin, we can cite that it often has a decided untoward effect on accommodation; that it increases intra-ocular pressure, thereby being contra-indicated in cases of glaucoma; and lastly, that its effects last for thirty-six to forty-eight hours or more.

As for ephedrin, in view of the fact that I have not used it enough to know it thoroughly, its advantages and disadvantages cannot be discussed at this time.

Euphthalmin is an ideal mydriatic. Two solutions of the drug were used—a five per cent. and a ten per cent. solution.

It was used in twenty-six cases. In sixteen cases only one drop of the ten per cent. solution was used; in five cases, after five minutes, another drop was instilled; in five other cases a third drop was used after five minutes.

Mydriasis with a ten per cent. solution was produced in as short a time as six minutes; with a five per cent. solution mydriasis was accomplished within twenty minutes. It can also be stated that accommodation was not interfered with in these cases. The writer has recently heard (Sneguirew, *Ophthalmolog. Klinik*, Nos. 8 and 9) that holocain increases the diffusion of euphthalmin, so that a combination of the two would bring about mydriasis still more promptly.

Maximum degree of mydriasis occurs usually after three hours; the effects of the drug have completely disappeared by the seventh hour. The corneal and conjunctival cells are not injured by its use. I have never noted any increase in intra-ocular pressure following its use.

Summing up, then, the advantages of its use are:

1. It dilates the pupil more quickly than any other agent.
2. Its influence on accommodation is so slight that for all practical purposes we can afford to disregard it.



3. It does not increase intra-ocular pressure.
4. No untoward toxic effects follow its use.
5. No irritation of cornea or conjunctiva is induced.
6. Mydriasis following its use does not last long.

—Translated by R. B. H. G.

**Gonorrhea and Vulvo-Vaginitis in Children.**—Dr. Nosotti (*British Medical Journal*, September 30, 1899) speaks well of protargol in the treatment of gonorrhea at all stages. The solutions used varied from one-half per cent. in the early days to two per cent. in the later stages. No ill-effects were noticed, no epididymitis or other secondary inflammation. It was much more satisfactory as an injection than permanganate of potash. It was found very useful in the vulvo-vaginitis of children. Protargol causes a free elimination of epithelial and pus cells and of gonococci from the urethral mucous membrane.

**Ergo-Apiol.**—The use of ergo-apiol is indicated in amenorrhea, dysmenorrhea, scanty and fetid menstruation. It is an active medicament and withal a pleasant one, producing no toxic or untoward effects. It contains true apium petroselinum, made by a new process. The latitude of its usage is wide and it has already gained a prominent place in the armamentarium of the up-to-date physicians who have used it. It is a preparation which has won success in the treatment of the most difficult maladies with which the practitioner has to contend, and the fact that it *has* succeeded is the sure test of its value. By virtue of its component parts, apiol, ergotin, oil savin, and aloin, this preparation will fill a place that has been vacant for a long time in the domain of pharmaceutical products—*i. e.*, a combination of drugs, which, while active enough to bring about pronounced physiologic effects, yet do so at no expense to the digestive and general functions of the body.

### 'TIS FOR THIS ARE WE DOCTORS.

Well? Let it be true that merit and good fortune are most oft closely united; Yet it remains a stronger truth that merit must advertise, or it will be slighted. Merit may be as pure as gold, as clear and brightly brilliant as a diamond beam, But e'en in the realm of Medicine, unless merit is well and smoothly advertised, it's never seen.

In these days numbers throng the Doctor's calling, competition keen and full of fire, Then why need we wonder if Doctors become adroit schemers, hypocrites, diplomats, and even cunning liars?

Success paints bright and misleading hues, sometimes halos an active idiot, makes a fool seem wise.

Analyze each such successful Doctor and it will be manifest that somehow or other his merit is advertised.

The successful Doctor is constant in purpose, Activities' swain, a wise intriguer, a conqueror of pain,

A wily suggestor, a keen student of man and life, a real good actor, a man of brain.

Success in this rare, old rolling world hath no counterpart, indeed, 'tis alike itself alone, And that Doctor who succeeds must have tact, good judgment, real merit, and this merit must be known.

Pondrous his head, pondrous his brain, still a fool, void of tact and in judgment poor.

Those who knew this man best thought him a genius, but the world in general judged him a bore.

Earth's best Doctors never advertise. Heavens! no! never in the commoner and coarser way,

Yet Earth's best Doctors are Earth's best advertisers, since merit, like a beacon-light, has only advertising ray.

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### THE ETIOLOGY OF SCARLET FEVER.

Some time ago Dr. William J. Class, of Chicago, published the results of his investigations along the line of a search for the cause of scarlet fever. Dr. Class isolated from the throats and scales, and also from the blood, a diplococcus which he called the "diplococcus scarlatinæ." This diplococcus is found constantly present in scarlet fever. By inoculation experiments Class reproduced the disease in swine, in guinea-pigs and in mice, and separated the micro-organism in pure cultures from the blood and organs of these animals. The writer has made a similar series of investigations along this line, and a full report (preliminary) will appear in the March issue of this journal. He has found this diplococcus scarlatinæ in seven cases of scarlet fever at the St. Louis City Hospital. The animal experiments proved conclusively that this micro-organism is pathogenic for mice, guinea-pigs and swine. The interesting fact about the whole series of investigations made by the writer is that a mouse, for instance, if put in a cage where another inoculated mouse has been confined, will sicken and die, and the diplococcus scarlatinæ can be reclaimed from its dead body. This proves the contagiousness of the disease set up by this micro-organism, and serves to stamp this appellation of the *diplococcus scarlatinæ* more indelibly upon Class' micro-organism. For a more complete account of this work, the reader is referred to the March issue. R. B. H. G.

### THE ROLE OF BACTERIA IN THE CAUSATION OF DISEASE.

It seems that the medical profession is altogether too prone to rush to extremes, once they have established the truth or seeming truth of any



doctrine. This is especially true of their stand with reference to modern investigation along bacteriologic lines. It is true that they were slow to receive and still slower to accept the earlier hypotheses and findings advanced by the early bacteriologists, but now we hardly have occasion to blame them for chariness in that direction. The time for warning is now at hand, and the sooner they are warned, the more hope will there be of a continued advancement of the no-longer infantile science of medicine. To get to the point at once: there is a tendency nowadays to put too much stress upon the part played by the bacteria *alone* in the causation of bacterial disease. We see it on every hand. You will hear medical men telling how this and that disease is produced by a bacterium, and yet no reference will be made to the existence of any systemic depravity of the individual suffering with that disease. We know that the presence of a particular bacterium is essential for the production of any one of the bacterial diseases; but we also know, or ought to know, that something else is also equally essential, and that is a lowering of the general state of the organism, a lessened resistance on the part of the individual, a weakening of the natural protectors of the body, if you will—the phagocytes, the alexins and the antitoxins which are supposed to protect the organism against the onslaughts of pathogenic germs. Therefore, in order to have disease, we must have these two factors at work—the bacterium itself and the systemic weakening. This is seen especially in the case of the infectious diseases like pneumonia crouposa, septicemia, typhoid fever, and many others. This fact must be borne in mind by all, otherwise we will be soon steeped in egregious folly.

### THE COMPLICATIONS OF GONORRHEA.

In the last few years the records of medical literature have been greatly increased by contributions upon the subject of gonorrhea and its complications and sequelæ, anomalous cases of gonorrheal urethritis, cystitis, arthritis, nephritis, and, lastly, gonorrheal endocarditis. It seems that the gonococcus has a far wider distribution in the human organism than has commonly been supposed. We hear so frequently of cases of gonorrheal arthritis, that this complication has come to be looked upon as a thing not quite out of the ordinary. One of the most interesting and instructive cases showing the havoc which the gonococcus of Neisser sometimes creates when it migrates from its customary habitat—*i. e.*, the human urethra—is one reported by Bransford Lewis, of St. Louis—a gonorrheal kidney, where the pathologic lesion consisted in a pyelo-nephritis, with pocketing of the kidney to an extent equal to that seen in renal tuberculosis. Bacteriologic diagnosis of the true nature of the disease was made by the writer, and thus the chain of evidence completed. Recently the writer has seen in the St. Louis City Hospital a case of general gonorrheal infection where the gonococci were cultivated from the blood. An arthritis existed in this case coincidentally with a vaginal and uterine gonorrhea. The gonococci are not found at all times in the blood in cases of general gonorrheal infection, but they appear, disappear and reappear. This transitory aspect to their presence in the blood is probably due to the fact that the process of migration into the blood stream is intermittent and not continuous. In other words, the blood is not surcharged with them

at all times, but is infected at intervals from a localized *nidus* of infection, and that they disappear from the blood after circulating in it for a short time.

### THE POLLUTION OF OUR DRINKING WATER.

As we all know, the people of St. Louis are now drinking the refuse of the city of Chicago. The city of Chicago has built a vast open sewer through which she is discharging her sewage into the Illinois river, from which it flows into the Mississippi and thence into the reservoirs of the city, and from there into the intestinal tracts of the citizens of St. Louis. It seems that the city of Chicago has made the claim that with the great dilution of this sewage which they *intend* to make, with its long transit from its source to our drinking water pipes, and the consequent chemical changes which will take place in this long transit, there will be no danger to the people of St. Louis resident in this polluted water.

The municipality of St. Louis, however, unwilling to take things for granted, as the city of Chicago would have them do, has commenced a series of investigations upon this water polluted with Chicago's drainage. Samples of water are taken from various points along the river as far up as Grafton, Illinois. These samples, taken twice daily, are shipped to St. Louis, where they are examined chemically and bacteriologically. The bacillus coli communis, normal inhabitant of the intestinal tract of man, is present in this water in great numbers, showing human sewage pollution. As soon as full proofs are at hand, injunction proceedings will be begun in the United States Supreme Court by St. Louis against the Chicago Drainage Canal people.

### MEDICAL ORGANIZATION.

So often has the subject of organization and concerted work been enjoined upon the medical profession, that we almost despair of accomplishing any good by another reference to it. Nevertheless, emboldened by the exigencies of the occasion, we cannot refrain from stating our views in this regard. We are well aware of the laxity of medical laws in the State of Missouri governing the practice of medicine; we are well aware of the luxuriant culture medium the soil of this great State offers for the growth of those varied parasites and saprophytes, osteopaths, Christian Scientists, and other cults too numerous to mention; we know full well how wild-cat medical colleges flourish under the present *regime*; we know how potent the influence of the "newest" parvenus, the anti-vivisectionists, is; we know how many women and unborn infants the midwives consign to premature graves; we know how the whole fabric of politics is abusing the prerogatives appertaining to their office in matters medical; to sum it all up, we know, or we *should* know, that the medical profession is woefully incompetent at the present writing to bring about reforms in any one of these directions. And why? Because there is no *organization*; because each doctor is unconcerned; because the medical profession is asleep; because the doctor, as a rule, is too much of a recluse and contents himself with the thought that he has a place to sleep and can purchase his meals; because the medical profession is content to lie supinely upon its back and let the vandals of civilization, those motley "pathies," each and all prod-



ucts of degenerate and illy-developed minds, invade the field of medical practice and defraud the public, who, poor fools, cannot be expected to differentiate between a wise man and a fool, so full is the "regular" profession of learned fools; because many of the profession of medicine are so full of personal animosities that they cannot join hands with their alleged enemies even in a common move to better the condition of the whole profession. In short, they will not sacrifice their personal spite on the altar of advancement of the profession.

Let each doctor constitute himself a committee of one to fight for the proper advancement of the profession in public questions. Every doctor can influence to his way of thinking any number of voters from one to two hundred. Just think what good principles he can instill into them in these directions if he but take the trouble to do so; what a revolution he can bring about in State and city politics if he can but summon up enough energy and courage to face this problem so momentous to us all. This is a picture that we would leave before you: this picture of every doctor striving for the betterment of the profession and of the public in turn, by devoting himself to the question in hand. In no other way can reforms be brought about. We may talk, figuratively speaking, until doomsday to each other, or to the press, without accomplishing a single reform, but if we follow the plan outlined above results will be sure to follow, for *it is the votes that count*. Let all reputable physicians put their shoulders to the wheel; let petty jealousies be swept aside; let the goal toward which we are struggling be ever kept in mind, and the medical profession will be surprised at its own legislative influence.

### THE LEGAL RESTRICTION OF PROSTITUTION.

S. Lustgarten, of New York, has given a succinct review of the present attitude of the American people towards the licensing of prostitution (*Medical Record*, January 13, 1900). As the author states, there is on record but one instance of the enactment of a law governing the examination of prostitutes in the United States, and that law was in force in our State of Missouri for about one year, beginning in 1872. This examination included prostitutes in houses of prostitution, occupants of rooms outside of such houses, and "kept women"—i. e., mistresses. No distinction was made: they were all considered as prostitutes, and no legal difference was made. It seemed that the number of cases of venereal disease in the city of St. Louis did actually decrease during the *regime* of licensed prostitution, which can be explained in two ways: first, by actually making those prostitutes who had venereal diseases undergo hospital treatment; secondly, by driving from the city as vagrants those prostitutes who were unwilling to receive this treatment.

In order to actually cut down the number of cases of the various venereal diseases, the legal restriction of prostitution should be in vogue everywhere. The legal measure, as we know, was abolished through the instrumentality of that class of pure-minded, but misguided citizens who think that it is sinful to license prostitution; that the men who satisfy their lust by holding sexual intercourse with prostitutes deserve whatever fate may befall them. We beg to disagree with these righteous citizens,

who so vigorously oppose a measure which promises to free mankind from diseases which now harass so many of the youth, the middle-aged, and the elders of all lands. They do not take into consideration the number of *innocent* victims of the diseases of Venus, those people who are bearing the sins of others, who have been infected with these communicable diseases through no fault of their own, but through the carelessness of their male relatives, who, regardless of their duty to their own flesh and blood, expose and infect the members of their own household, and, in many cases, live on in mental agony or die by their own hand, with the full realization of what they have done. We plead, therefore, not so much for the victims of disease who, if you please, "deserve" it (we say this facetiously, of course), but for that other class just alluded to, and we hope our plea will not be made in vain. Here we have a means of stamping out disease; it is a hygienic measure, justifiable as any which our citizens demand of the sanitarian and hygienist, save to those who gaze through tinted glasses, and we are foolhardy not to use it. Every energy should be put forth to carry out a wholesale "licensing of prostitution," and in that way countless lives will be saved and prolonged, many homes which are now being blighted by those unfortunate accidents of contamination above alluded to will be kept untainted, and finally, the *morale* of the community will be raised, in spite of everything the "anti-prostitution licensers" may think or say to the contrary.

#### THE VIS MEDICATRIX SPIRITUS SANCTI.

It is but seldom that we have the opportunity of hearing an intelligible account of the mental symptoms of a disease from a patient, for the reason that they do not understand medical parlance, because they cannot analyze their feelings, and often because they will not reveal the "workings of their inmost souls" to their medical attendant. Our sole hope under the existing conditions is to occasionally get such an account from a medical man who is himself the victim of some bodily or mental ailment. We read in the *Dominion Medical Monthly* for December, 1899, of a remarkable case of erotic neurasthenia in a medical man, where cure was ultimately effected by "conversion." The history of the case is given in the doctor's own words, and graphically describes his sensations from earliest childhood, when self-pollution began. He had been a happy boy up to the age of fourteen years, when a rabid desire to masturbate took possession of him. This continued through many years, in spite of all his attempts to cease. His erotic tendencies also showed themselves after he began the active practice of medicine, and made his life miserable; they even continued throughout his married life. After being some years in practice, he was called to a case one night, and on his way home he saw a "revelation;" he seemed to be suffused with a new light; his soul underwent a change, and he realized full well that from that time forth the evil spirit in him had been expurgated. And so it was; he has never been troubled with his erotic thoughts after that night.

From a close perusal of the above account, it seems clearly manifest that this case represents one of the class of auto-suggestion cures of a mental malady. No matter what the cause was that made this man change



his erotic life, we are assured by him and by his medical attendant that he did change, and so we can see a therapeutic effect gained in this case. The man was evidently of a deeply religious temperament. The strange thing about the case is that cure was not sooner effected in this case than it was, considering the fact that the man had been brooding over his trouble for so many years, and had tried so hard to drop his pernicious habits. In this connection it might be well to dilate upon the manner in which such changes are brought about in men of evil tendencies whereby they suddenly become "converted" and become good men. It seems very probable that there is a gradual change produced in some part of the brain so that a certain center or centers are developed more than was the case, or a certain center which was "in abeyance," as it were, begins to functionate, and in that way a great change is wrought in a man's manner of life. How this thing occurs is a puzzle, and we can attempt no explanation thereof. That it does occur, though, we are sure.

### THE AUTOBIOGRAPHY OF A QUACK.

S. Weir Mitchell's story, "The Autobiography of a Quack," which has been running in the November, December and January issues of the *Century Magazine*, is exceedingly good reading. The writer is as fully at home in the realm of fiction as he was in the wide domain of medicine, where he achieved a noteworthy reputation by his original work and investigations. The story deals with a medical man, who, after trying the "legitimate," branched out into quackery, in which he met fair success. What appeals particularly to us here in St. Louis, is the humorously implied allusion to the laxity of the medical laws in Missouri by the author sending his quack from the East, where his charlatanism had been clearly disclosed, to St. Louis, *where he lived long and prospered!* This is really very true to life, and is but another reminder for the medical profession in this State to organize and elevate the standard of medicine.

### THE HISTOLOGY AND PREVENTION OF BLACKWATER FEVER.

The Consulting Medical Officer to the Royal Niger Company, Dr. W. H. Crosse, gives a brief account of the disease "blackwater fever," which is nothing more nor less than a febrile disease of malarial type, characterized by hemoglobinuria, jaundice and vomiting. (*The Lancet*, January 6, 1900.) The disease is met with rather frequently on the west coast of Africa, where it attacks English settlers and natives alike. The writer had an opportunity to study the organs from a fatal case of this disease. The changes met with in the kidneys were those of an early parenchymatous nephritis, only a superficial necrosis of the epithelial cells of the convoluted tubules being noted. Sections of the liver showed marked pigmentation of the hepatic cells. The pigment is seen in the general protoplasm of the hepatic cells, not in the nuclei. The endothelial cells of the hepatic capillaries also contained pigmented spots. The spleen was in a state of fibrosis, and showed marked pigmentation similar to that seen in the liver.

In this connection it might be well to say something about the etiology of this affection. Koch, in the *Journal of Tropical Medicine*,

maintains that the disease is an intoxication from quinine medication, and not a complication of malaria. He bases his assertion on the fact that the malarial parasite is never found in the blood of these patients at the time they are suffering with blackwater fever. The flaw in his argument is that the blood was not searched for the malarial parasite before the acute onset. From a general view of the question, one would conclude that the disease is essentially of malarial nature. The fact that removal of the patient from the malarious district, the administration of quinine, arsenic, etc., works wonders in the way of cure, would imply that the disease is a malarial one. We have a form of hemoglobinuria in this country, especially in the South, caused by the malarial protozoon, and it seems to do better without quinine than with it. In fact, from a number of recorded cases, it was shown that these cases which did not receive quinine, recovered, while those cases which did receive it, died.

### THE MEDICAL CORPS OF THE BRITISH ARMY.

Medical men the world over should view with pride the excellent record which is being made by the medical department of the British army in the South African campaign. No matter how much light the future reports of the military state of affairs may be shed on the attitude of the British commanders in this campaign, no matter how much aspersion may be shown by pro-Boer sympathizers for the blundering English in their quagmire of mistakes in their military conduct of matters of vital importance during this South African campaign, a bright effulgence will ever be cast upon the noble work of the medical men concerned in the care of the injured, the sick, and the dying in the field and in the hospitals of South Africa. It is the very same thing over again, just as it was at "Majuba Hill:" 'tis the medical corps which alone deserves credit. This is true of the present campaign, that the attention given to the sick by their protectors, the medical men, is far better than that given to the well men by their protectors, their commanding officers. This should not be. Look to it, English generals, that your men are not led into death-traps time and again; have a care that the laments of thousands of grief-stricken wives, mothers and daughters shall not ring through Albion for years to come, and see to it that posterity shall not curse your names instead of venerating them, as you would have them do. The whole fabric of the English army shows evidences of decay, with the exception of the intact medical corps, which is doing good work, has always done good work, and will always do good work, handicapped though they may be by the blunders of the other departments. G.

### ANOTHER CONGRESS OF TUBERCULOSIS.

A Congress of Tuberculosis, under the auspices of the Medico-Legal Society, will convene in New York City on February 21, 1900. The idea of holding conventions of medical men to discuss the subject of tuberculosis and the best methods for successfully coping with it, is a good one, and the more meetings of this kind that are held, the sooner will the medical world be in a position to produce an impression upon the disease in question. A meeting of this kind was held in Germany last year, and much valuable thought on the prevention and cure of tuberculosis was dis-



seminated. A meeting of the same kind will be held in New York, and the representative men of the country will participate and discuss the subject. No more effective means of dealing with such a weighty problem could be conceived than the assembling of medical men who have had experience with the disease, who know its characteristics, and can, therefore, best adopt measures looking towards its annihilation. It is recognized now that the way to cut down the mortality of tuberculosis is not so much a search for a specific cure, as it is for means of preventing the spread of the disease. In other words, prophylaxis is to be our watch-word, and time will surely tell in the way of a decrease in the number of cases of this disease.

### THE UNITED STATES MARINE HOSPITAL SERVICE.

The work of this department is certainly praiseworthy and deserves more than passing mention. Founded at first as an institution to care for the sick and injured mariners of the United States and those foreign sailors who might be "shipwrecked on the reefs of ill-health on our shores," this service has extended its province, and now has become a vast quarantine department, protectors of the health of the country by their efforts towards preventing the entrance of pestilential diseases into our ports, and corraling these diseases if they ever do succeed in effecting an entrance, which is but seldom the case. No words of commendation can fully impress upon the readers the great worth of this government department. As an example of their splendid success in checking the progress of a deadly and rapidly spreading disease, look at the complete stamping out of yellow fever which they effected last year at the Soldiers' Home at Hampton, Virginia. Many other examples might be cited showing their application of the scientific ideas of modern sanitation and hygiene. Besides their work in the field of hygiene, we should not forget to mention the work of the original investigators in the service. Wasdin and Geddings, in an exhaustive investigation upon the etiology of yellow fever, which work was carried out at Havana, Cuba, positively demonstrated to the satisfaction of the bacteriologic world that the bacillus icteroides of Sanarelli is the cause of yellow fever. The work of the men at the hygienic laboratory at Washington, D. C., which is under the charge of this department, is thorough and satisfactory. In concluding, it is but fair to say that much of the present admirable showing that is being made by the United States Marine Hospital Service is due in a great measure to the executive power and scientific attainments of the head of the department, Dr. Walter Wyman. He should be proud of the record which his department has made under his administration. Well may the minds of the community at large rest at ease when they think of the new foe which is threatening to invade this country—*i. e.*, the bubonic plague—for the Argus eyes of this department are upon the approaching enemy, and we feel confident that in the combat about to be enacted, the United States Marine Hospital Service will come out victorious. The additions to quarantine regulations lately issued by this department take up every possible source of dissemination of the disease, and, with the effective administration of these regulations, which will be carried out by the officers of the department, the disease will surely never gain a stronghold in the United States.

# CLINICAL LECTURE.

## MEDICAL CLINIC ON DISEASES OF CHILDREN.<sup>1</sup>

BY AUGUSTUS CAILLÉ, M. D., of New York,

Professor of Diseases of Children; Visiting Physician, New York Post-Graduate and German Hospitals; Consulting Physician, Isabella Home and Hospital, etc.

**C**ASE 1. *Central Pneumonia*.—I wish first to draw attention to this baby, which has been in the wards three to four days, and no diagnosis has been made. We learn that the temperature ranges from 103° to 104°. The respirations are between 30 and 40, and there is a slight cough but no physical signs of pneumonia. Now, experience shows us that where we have such a temperature, with respirations between 30 and 40, together with an occasional hacking cough, we may look for a deep pneumonia which sometimes cannot readily be localized. A central pneumonia, or one that develops from the center of the lung, takes frequently four or five days before we can recognize it by physical signs, and we often find ourselves going to the patient's chest a number of times without being able to make a positive diagnosis, which is very annoying. When you are face to face with such cases, you can simply tell the parents that you suspect a pneumonia, and treat the case accordingly.

**CASE 2.** *Prolapse of the Rectum with a Vulvo-Vaginal Discharge*.—This girl was shown you last week. She has a prolapse of the rectum and a vulvo-vaginal discharge, gonorrhoeal in origin. In speaking of the treatment, we stated that it would be necessary to swab the vagina with a solution of nitrate of silver, five or ten grains to the ounce, in order to overcome the purulent vulvo-vaginitis. We hope that, by taking away the irritation, to see the prolapse disappear. To-day, although the discharge is much less, the prolapse is still here, and so we now will swab the vagina again. Please notice that there is not so much redness to-day. last week the discharge was quite profuse; to-day, there is not so much; I will now proceed to cauterize with nitrate of silver solution, and I shall do it thoroughly. The mother should be instructed to wash the parts with a solution of sulphocarbolate of zinc, one drachm to four or six ounces. Stone in the bladder is sometimes a cause of prolapse of the rectum. I will introduce my finger into the rectum and endeavor to learn if such a condition exists; a stone in a child's bladder can usually be felt per rectum. We do not find anything of the kind. The mother will use the solution mentioned, and should also be instructed to inject into the rectum a solution of alum water, one drachm to the pint; eight ounces to be injected twice a day. If we are not successful in the management of the case in this way, we then can use the actual cautery, and make linear scarification of the prolapsed gut.

**CASE 3.** *Mitral Insufficiency*.—This child is eight years of age, and is brought to us because she suffers from dyspepsia. Her dyspepsia has lasted, not days or weeks, but years. If it were due to simply overloading the stomach, it would last but a few days or a few weeks at the most.

<sup>1</sup> Held at the Post-Graduate Hospital, New York City.



The mother states that the child's heart beats rapidly. She has frequent palpitation of the heart, she cannot sleep well, and she gets out of breath in going upstairs. If you place your ear to her chest you will hear a loud systolic murmur, which will explain the dyspeptic symptoms at once. She gives a history of having had rheumatism three years ago. If this child has had a valvular lesion during the past three years, she ought to have an enlarged or hypertrophied heart. To show you that such an enlargement exists I will mark out with a pencil its boundaries. She has a systolic murmur, palpitation, want of sleep, difficult breathing on exertion, enlargement of the heart, all of which enables us to make a proper diagnosis and to account for her dyspeptic symptoms. Some time in the near future I will devote about twenty minutes to a discussion of the management of such cases.

CASE 4. *Apex Pneumonia*.—We have here another interesting case. This baby is ten months of age, and has been ill for the past two months. The mother states the child is failing. She has fever. She has a cough. She is losing weight. The mother also gives us the information that in August the child had measles, and ever since has been ill. In cases of this nature one should examine carefully the chest and abdomen and the urine. Measles are sometimes accompanied by a broncho-pneumonia or complete solidification of the lung, without timely resolution. In our case dullness is found over the right apex, and such cases are very common. An apex pneumonia is frequently overlooked, and children are treated a long time for malaria, or for a bronchitis, or what not. Apex pneumonia is readily detected if looked for carefully. Now, what shall we do in cases of this kind? We know that such children are apt to become tuberculous. A solidified patch of lung is a good breeding ground for the tubercle bacilli, and so a large number of children become tuberculous. Therefore, every effort should be made to overcome this tendency and get the lungs to clear up. So far as my personal experience goes, I know of nothing better in the way of drugs than iodide of potassium, as contained in the following:

R	Potassii iodidi.....	3 j
	Tinct. opii camph.....	3 ss
	Syrupi.....	3 ss
	Aquæ.....	3 ij
M.	Sig.—Teaspoonful thrice daily.	

Fresh air and proper food are, of course, necessary. The mother should be instructed to take the child out in the fresh air as much as possible. Do not keep the child indoors wrapped in heavy clothes, with, maybe, a layer or two of cotton about her.

CASE 5. *Rachitis*.—This baby has a skin eruption, and there is a question as to its significance. It is a papular eruption, only noticeable at the buttocks, which is disappearing. It is a common occurrence whenever the skin is irritated by wet and unclean diapers, and can readily be distinguished from syphilis. There are other things about this child, however, which are more interesting. Please notice that when I press with my finger upon the occipital bone it crackles like parchment; you can indent it. This is what is termed *craniotabes*, and is one of the principal symptoms of malnutrition. This baby, I am told, gets the breast milk

and nothing else. If that baby were properly fed it would not have this condition. I can positively say that its food is not sufficient, and to prove it to you I have here on this slide a few drops of the mother's milk, and you can see what a watery article it is. This woman's milk is not up to the standard. I should advise the mother to attempt to improve her milk by eating eggs, meat, and other nutritious foods, by going into the open air. In addition to the breast milk, I should advise her to give the child some other form of milk, particularly modified cow's milk, with four per cent. of fat, and in a reasonable time you will find your patient markedly improved.

CASE 6. *Neurotic Heart*.—This young lad has a rapid heart. I do not hear any murmur, but the heart is not only rapid but irregular. This is an instance of a neurotic heart. It beats 140 to 150 times. His mother states that he is a nervous, irritable, cranky boy, and in conformity with his peculiar disposition we find the heart rapid and irregular.

CASE 7. *Goitre*.—Here is a young lady, twelve years of age, who has an enlargement in the neck which you will recognize as a goitre, both lobes of the thyroid gland being enlarged. I want to say a few words regarding the giving of thyroid extract in these cases. In the past few years I have known of colleagues who as soon as they recognize a case of goitre immediately give the thyroid extract or the thyroid powder. A goitre is an enlargement, often cystic, of the thyroid gland. Because the thyroid gland is moderately enlarged, it does not necessarily follow that its function is lost and, therefore, thyroid extract or powder must be immediately administered; that is all wrong. One is not justified in assuming that its function is gone. In the condition known as myxœdema, your thyroid treatment would be proper and you would be giving to nature what she has lost. Please never assume that because the gland is hypertrophied it is not doing its work. In my experience the only thing that will reduce the size of this gland is iodide of potassium; this drug is given in a watery solution, one drachm to one-half an ounce; ten or twenty drops are given twice daily, in milk. A goitre of this kind may disappear when iodide of potassium is administered. There is no question of operative interference. At present this goitre is not large enough to press upon the trachea or nerves, or interfere with respiration or the comfort of the child in any way.

CASE 8. *Adenoids*.—If you place your finger behind the soft palate in this child you will feel a mass which is readily recognized as adenoid tissue. An assistant sits in the chair holding the patient, encircling his arms with his own; another assistant introduces a mouth-gag and steadies the head. With a sharp curette the growth is quickly planed off and removed. These children complain of taking cold easily, breathing through the mouth, having so-called "night terrors." They usually have a stupid expression. When called to see such a case one should remove a portion of the warty growth with a post-nasal forceps and tell the parents that the posterior portion of the nose is filled with such a growth. They should be curetted with or without the use of ether or chloroform. You can rest assured that in removing such growths you have done a good deed. Many of these little patients go from one dispensary to another, being dosed with



cough mixtures, etc., when they would soon have been cured if the adenoids had been removed.

CASE 9. *Hypertrophy of the Tonsil*.—Here is another case of respiratory impediment in a boy of twelve, in the shape of large hypertrophic tonsils. There is but one method of treating these cases effectually, and that is by removal, best performed by the tonsillotome. The head of the patient should be held by an assistant, who also controls a mouth-gag; as much of the gland should be removed as can be pressed into the tonsillotome.

I will now devote the remaining time to a discussion of the points in the dietetic management of dyspepsia and summer diarrhœa. Diarrhœas in children are not the result of catching cold or sitting on cold stones, but are due, as a rule, to overfeeding or to bad food. Now, let us suppose that there comes to you a child nursed at the breast, and that the breast milk is good, and the child is fed every half hour. This child gets too much milk and gives rise to a dyspeptic diarrhœa from overfeeding. This child should be taken away from the breast for one-half a day or longer and then put back to the breast at longer but regular intervals. In the majority of instances dyspeptic diarrhœas are due to improper food—either improper breast milk or improper bottle food. A woman who is cachectic from cancer, syphilis, tuberculosis, or Bright's disease cannot give her child proper breast milk; neither can she give proper food if she is epileptic, or suffers from typhoid fever. Dyspeptic diarrhœas occurring in such instances should be cared for by taking the infant away from the breast and substituting good breast milk or good bottle food. In the cities the majority of cases of dyspepsia and diarrhœa are due to *bad bottle food*, such as spoiled milk, condensed milk, etc. Here we should take the child from the bottle and substitute farinaceous waters, toast-water, egg-water, rice-water, etc.; this can be done for one or two days or a week and, as the child's condition gets better, you can stop these foods gradually and go back to the proper nutriment. I believe it to be a good plan to have a list of farinaceous waters and drinks printed on the backs of your professional cards, and then to hand them out when needed. This will save one a great deal of annoyance from repeating directions.

Now, having by means of such simple dietetic methods, without medicine or any other interference, seen the child improve, the question comes up, what shall we do to prevent the child from having a relapse? Can I give cow's milk, which is the best substitute for the mother's milk? It must be given in such a way that it can be digested by the little patient. Now, let us see what is the difference between mother's and cow's milk. In good mother's milk there are about four per cent. fat, seven per cent. sugar, and one and one-half per cent. proteids. Cow's milk is about the same as regards fat, six per cent. of sugar, and three per cent. of proteids. Therefore, if you wish to *modify* it or *dilute* it so that the proteid material will be one and one-half per cent. instead of three per cent., you will so dilute the milk that the percentage of fat falls below two per cent. The great difficulty is keeping the fat up to four per cent. and at the same time reducing the albuminoids. Here in New York, in Philadelphia, and other big cities, we have milk laboratories, and people who have big pocket-books can obtain from the physician a prescription calling for the right

proportions; so here the laboratories do the business for you. The majority of people, however, wish to modify cow's milk at their homes. If you dilute the milk you must add something to get it to the proper standard—add cream, or dilute the so-called top milk. Let the mother buy the best milk and let it stand; she then should dilute it—this top milk, which has about eight to ten per cent. of fat—one-half, which will give the proper amount of curd with a sufficient amount of fat. In this way you have milk all right as regards composition, but it is liable to become sour unless properly preserved. There is another point in difference between breast and bottle milk—the breast milk is sterile and the bottle milk is not. Milk, even though it be boiled, will rapidly turn sour during summer months because the turning point, or souring point, is 60° F. Soxhlet, a German chemist, recognized this point and stated that after mixing it you should preserve it as a housewife preserves her peaches, by keeping it in air-tight bottles. His plan was as follows: He took bottles which were big enough to hold *one feeding*; these bottles had perforated rubber stoppers. He filled the bottles with milk and water, or milk and gruel; these were placed in a tray and in steamer at a temperature of 212° F. An Arnold's steamer is good for this purpose. After steaming for three-quarters of an hour the bottles were hermetically closed, by inserting a glass plug through the perforation, and the milk food thus prepared kept indefinitely.

I met Soxhlet in Munich about the time he first reported his sterilizing process, and I subsequently introduced this process to the medical profession in our country, since which time it has become common property. Instead of the original combination Soxhlet stopper, we substituted cotton for closing the bottles. I have here in this bottle milk that is ten years old, and you will notice that it is as sweet to-day as it was at first; it is fluid and perfectly good. This milk was sterilized according to the Soxhlet process. Now, here is another bottle of milk which is stoppered with cotton and sterilized in 1890, and you will notice that the milk is absolutely good. The milk is brown in color, but that is due to the cotton, which was roasted. You will notice also that the bottle is one-half full, because the water continually evaporates through the cotton; the water can get out but the microbes cannot get in. The importance of this is soon recognized, and I do not believe that there is any accredited physician present who would not employ sterilizing or pasteurizing process for the preservation of milk in the household. There are many new devices. Here is a rubber nipple which has a slit; this rubber nipple is placed over the mouth of the bottle. The steaming process expels the air through the slit, and as the bottle cools off a vacuum is produced and the nipple closes down by suction and hermetically seals the bottle. Here is another device I picked up in Germany; it too has a little slit and works on the same plan.

Now, what is all this good for? If we have a mixture of food properly prepared, and we sterilize it, that food will keep until wanted for use. Soxhlet's suggestion was to sterilize at 211° F. When milk is steamed at a temperature of 176° F., it is pasteurized. There is but little difference between sterilizing and pasteurizing. Both temperatures will destroy germs of fermentation, but the lower temperature will not destroy



tubercle bacilli; so I think it is best to use the higher temperature. The Arnold's sterilizer is particularly adapted for sterilizing, for the reason that when the tray filled with the bottles is introduced, and the jacket is not placed on, a temperature of  $176^{\circ}$  can be obtained; if the jacket is placed on, a temperature of  $212^{\circ}$  is obtained. So that, with the Arnold's sterilizer, we can both sterilize and pasteurize.

Another point I wish to bring to your notice is that the milk sold in the groceries, brought from the country district, traveling for six or eight hours in hot cars in the summer, will, in all probability, be already spoiled before the consumer gets it. If you go to work to modify and steam such milk, you will get bad results, because the milk is already spoiled. Therefore, if you make use of this process, impress upon your people the importance of sterilizing good milk and not spoiled milk.

As to the use of cotton stoppers used in the preservation of the milk, it is sufficient for all practical purposes when milk is to be sterilized day by day. But if the child has to travel for a week or two, Soxhlet's stopper is the best; one hundred or more bottles placed in the satchel, if they are prepared in this manner, can be carried along anywhere. But if the sterilizing is to be done day by day, the ordinary cotton is all that is necessary. If the milk mixture is good, you may be sure that no harm will result by sterilizing the milk.

The question of rickets or scurvy as the result of sterilizing process has been brought up, but there is no truth in it. It is not necessary to feed a child exclusively on sterilized milk. The sterilizing process should not be made responsible for faulty methods of feeding. Thousands and thousands of lives are saved by the sterilizing process; every year sterilizing prevents milk poisoning of delicate infants.

As a guide for you in the treatment of dyspepsia and summer diarrhœas in children, I take pleasure in handing you a few printed directions:

## DIARRHŒA OF CHILDREN IN CONSEQUENCE OF OVERFEEDING OR OF BAD FOOD.

### I. OVERFEEDING.

Dyspepsia and diarrhœa from overfeeding at breast or with bottle.

*Treatment.*—Stop feeding and give farinaceous water. Irrigation of stomach or bowel. Regulate interval and duration of feeding.

### II. IMPROPER FOOD.

(a) Bad breast milk. Cancer, syphilis, tuberculosis, cachexia. We select good breast or a proper bottle food.

(b) Bad bottle food. (Milk poisoning.) We stop giving the improper bottle food, and give as follows: Barley gruel, oatmeal gruel, egg white in water, gum arabic in water, cold tea, whiskey water, lime water, bread water, mutton broth, corn starch pap, burnt flour soup.

We give *no* milk for the time being, and after recovery we select for the patient a proper food (breast or bottle).

*Patent Foods.*—Why should physicians not encourage their use? Among other reasons: most of them contain little fat, and too much unchanged starch.

*Cow's Milk.*—Can we handle it to fit it for infant's use? It is slightly acid and contains about three times as much casein as mother's milk. It is not *sterile*, as human milk, and its turning point is about 60° F. How do we modify milk in the household? By diluting top milk.

#### HOW TO FEED BY BOTTLE.

Cow's milk, water or thin gruel, lime water, sugar, salt in proper proportions.

From three to five to eight ounces every two to three hours, seven to eight bottles in twenty-four hours. One bottle of food at night, and to quench thirst, fennel tea or sterilized (boiled) water.

With rich milk no cream is necessary.

This food should be *sterilized*, 212°, or pasteurized, 176°, *Soxhlet's process*. Small bottles, a tray, cotton stoppers, Arnold's steam cooker. In exceptional cases, when the digestive apparatus is defective, we make use of predigested food for a time and employ Fairchild's peptogenic milk powder.

When traveling with children a good supply of sterilized milk food should be taken along.

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**Artificial Limbs.**—The manufacture of artificial limbs is of very ancient origin. M. Sergius, the grandfather of Catiline, in early life lost his right hand in battle, but made himself an iron substitute with which he could handle sword or lance. About fifteen years ago a tomb was opened at Capua which contained a remarkable specimen of a well-made artificial leg. It was composed of thin sheets of bronze, riveted together and fastened to a wooden core. Iron bars connected the leg with a bronze belt round the waist of the skeleton, and there were traces of a wooden foot. The iron hand of Gotz von Berlichingen is historic, but among the German knights of his time there is record of one who had an iron foot, which weighed nearly ten pounds, and with this pedal extension he could kick so hard that his servants finally stole it and threw it into the Rhine. He had a second made, which shared the fate of the first, and he then contented himself with a foot made of German oak. The waiters and lackeys of his castle did not mind being kicked with an oak foot, but they drew the line on iron.

**A New Test for Albumoses in the Urine.**—To from 6 to 10 c.c. of urine in a test-tube, add one or two drops of hydrochloric acid and then phosphotungstic acid until everything precipitated by this acid has been thrown down; centrifugalize the mixture for a few minutes, pour off the fluid, shake the sediment with a few cubic centimeters of absolute alcohol. Place in the centrifuge, pour off the alcohol—repeating the process two or three times—suspend the sediment in water, and add a little concentrated sodium hydrate, when a more or less intense blue color will result, which disappears when the tube is shaken in the air, so that the biuret test can be performed with ease and delicacy.



## ORIGINAL ARTICLES.

### HOW TO PREVENT AND HOW TO TREAT UNUNITED FRACTURES.<sup>1</sup>

BY DR. A. C. BERNAYS, of St. Louis.

**M**Y EXPERIENCE is based on notes of twenty cases of ununited fracture of the femur, twelve of the humerus, eight of the patella, eleven of the tibia, six of the ulna, one each of the radius, the metacarpal bone of the index finger, the clavicle, and two of the inferior maxilla. These were treated in a surgical practice of twenty-three years.

The vast majority of all cases is due to a misunderstanding and a consequently improper or rather insufficient method of treatment. The impropriety and the insufficiency lie in the fact that the methods which were applied did not give the complete rest required to get union by bony consolidation.

The greatest stress must be laid upon this point, and it must never be forgotten that repair takes place in all diseases or injuries most quickly and satisfactorily under the influence of rest. When complete rest can be given to the injured tissues, repair takes place in a normal way, without fever or constitutional or local disturbances. Hilton, as long ago as in 1867, proved in a most careful study that under the influence of rest there is absence of pain. His little monograph "On Rest and Pain," is one of the classics in English medical literature.

I will go a step farther and will say that the reason why the aseptic and antiseptic methods of wound-treatment are better than all previous or older methods, is because they keep away from wounds the most mischievous agents of unrest that can possibly affect wounds—bacteria or their products.

To translate the phrase, "to give rest," into practical surgery, must always be the chief aim of the art of surgery. The surgeon who practices his art in such a manner as to secure the most perfect rest possible under the circumstances, for the diseased or injured parts which he treats, will be the most successful surgeon.

In the discussion, Dr. Bernays said that he believed the most valuable parts of his paper, and that part which would attract most attention, was the advancing of this observation. He went on to show that the entrance of bacteria or their toxic products into wounds were responsible for that commonest form of unrest, which is known as *wound infection*, inflammation and suppuration. In the presence of these we have abnormal, painful and slow healing, because the tissues are not at rest. They are irritated and are kept at work incessantly eliminating the poisonous irritating substances. In their absence we have normal, painless and quick healing. This is the real reason why the antiseptic or rather the aseptic method of wound-treatment is the best. *It is best because it gives most rest.*

<sup>1</sup> Abstract of paper delivered at Des Moines, Iowa, at the ninth meeting of the Western Surgical and Gynecological Society, December 27, 1899.

All cases of ununited fracture which are due to insufficient methods of treatment are curable; they can be cured by proper methods. The latter must insure the most complete rest, and, as a matter of course, those methods which fail to give the amount of rest necessary to produce or permit of repair must be given up. All cases of non-union which are not cured by proper approximation and immobilization are incurable and are due to some unknown or to some of the well-known constitutional vices, such as the different forms of malnutrition, cachexia and debility. It is clear that approximation and apposition, followed by proper fixation and immobilization are the methods which we employ to achieve rest in simple fractures. The same principles govern the treatment of compound fractures, but in addition we make use of such methods as will insure asepsis by means of antiseptics alone, or by means of antiseptics and drainage. Asepsis insures tissue-rest, keeps away the irritants, known as bacteria and toxins. An aseptic compound fracture can be treated like a simple fracture, but one must be very sure that there is no infection of the wound before closing it up without providing for drainage. The cases in which this is permissible have been very rare in my experience. The following were the theses formulated by the doctor in closing his paper:

*First.*—*The antiseptic and aseptic methods of wound-treatment are better than all previous methods, because they help to insure physiological rest to injured tissues by preventing the condition of unrest known as infection.*

*Second.*—Non-union of a simple fracture is always due to a constitutional vice, if it follows after proper and long-continued approximation and fixation.

(a) Non-union can, therefore, always be prevented by proper approximation and immobilization, in the absence of a constitutional vice.

(b) It follows, then, that an unknown or a known form of constitutional vice must exist in cases where non-union results after proper approximation and immobilization of a fracture.

(c) It is furthermore clear and must be maintained by all surgeons that if proper approximation and immobilization is practiced and continued for a long time, the attending surgeon cannot be held responsible for a resulting non-union. The non-union must have been due to an existing constitutional vice which we cannot always recognize.<sup>1</sup>

*Third.*—If after a certain length of time the dressing, cast, splint, or apparatus is removed and non-union is found, there are only three conditions possible:

(a) The dressing, cast, splint or apparatus failed to properly approximate and fix.

(b) The time of treatment was too short.

(c) There exists a constitutional vice.

The first of these three possibilities is by far the most common, and is the cause which, when recognized, can be easily removed.

*Fourth.*—After the use of any of the known methods of treatment of ununited fractures, be they the simple bloodless friction of the ends or any

<sup>1</sup>I have seen a few cases of non-union in children and young people in which the well-known forms of constitutional defects or vices could apparently be excluded, and in which non-union was evidently due to some general pathological condition of which we have no knowledge. There was simply no reparative action around the ends of the broken bone at any time after the accident, in spite of the most persistent treatment. During periods of time extending over several years all rational methods of treatment proved unavailing and there never was an improvement of the flail-joints.



of the bloody operations, such as drilling, nailing, wiring, sawing or clamping, approximation and immobilization must be maintained in order that bony union or consolidation may take place.

*Fifth.*—The so-called ambulatory treatment of fractures of the lower extremity, while often giving good results, will be followed by delayed union or non-union more often than the treatment in bed, because of failure to secure proper rest.

*Sixth.*—In old cases of non-union of simple fractures it is a good plan to save all of the chips or sawings of the bone which are removed when preparing and shaping the ends, and to replace them between and around the fragments or ends of the bone before removing the Esmarch bandage. After the tourniquet is removed, the whole wound and the spaces between the fragments and chips will be filled with blood, and if one has been aseptic the best plan will be to close the wound entirely and put to rest with a view of leaving the dressing untouched for a period of from seven to ten weeks.

*Seventh.*—In cases of fracture of the long bones, I believe that the use of an anæsthetic for the purpose of getting perfect apposition and fixation is indicated.

*Eighth.*—The old rule that the joint above and below the fracture must be included in the immobilizing apparatus, cast, or splint, can never be safely broken. It is a good rule, and should always be observed in the treatment of delayed union or ununited fractures.

3623 Laclede avenue.

## CLINICAL NOTES ON CANCER AND OTHER PATHOLOGICAL CONDITIONS OF THE MALE SEXUAL ORGANS.

By THOMAS H. MANLEY, M. D., of New York City,

Visiting Surgeon to Harlem Hospital and Professor of Surgery at the New York School of Clinical Medicine.

THE wide difference in the frequency of malignant disease in the organs of generation, in the sexes, is one of the most extraordinary phenomena in clinical medicine. Next to cancer of the mammary gland, this dreadful malady is most frequently seen in the uterus. Uterine cancer every practitioner sees, but cancer of the male organs of generation one may never meet with during his whole professional life.

Malignant disease of the uterus—a type of visceral cancer—is a comparatively painless affection, but when it seizes on the male organs of generation its ravages are always attended with more or less distress and suffering. This is most accentuated when it seizes on the penis, destroys the prepuce and infiltrates the corpora-spongiosa.

As nearly as I can remember, no more than a half dozen cases of penile cancer have ever come under my observation. This extreme rarity of cancer in this situation tells with great force against the views of a few modern writers, who regard the malady as contagious, as being propagated

by the coccidia or other types of bacteria. It tends to prove beyond question, too, that transmission by contact is a myth without the slightest foundation to support it.

Of the large number of cases of uterine cancer seen by me, there was not a *single* instance of the husband having been infected by the wife; and it is well known epithelial ulceration in the menstruating woman is usually attended with an exaltation of the sexual impulse.

Cancer of the penis is very unusual before the age of fifty years. The last three cases coming under my care were in widowers over sixty. Two cases of supposed cancer of the penis were sent to me for amputation in men about middle life—one forty-four and one forty-six—which proved to be chancrous ulcers. Erroneous conclusions as to the character of open lesions of the penis are so common that great vigilance must be exercised in these cases before recommending ablation of the organ.

#### CLINICAL HISTORY, SYMPTOMATOLOGY AND HISTOLOGICAL EXAMINATION.

Diagnosis being often attended with difficulty, and as a rational line of treatment is only possible by an accurate understanding of the pathological process in operation, we must avail ourselves of every possible means to securely establish it. As a means to this end the clinical aspect of the case must be regarded as of more importance than everything else combined. The age of the patient, a hereditary history, the habits of the patient, the character of the pain, and the patient's general constitution are matters for careful consideration. By a process of rigid investigation into the clinical history, the pathology and symptomatology we may generally be able to exclude a tubercular or venereal ulcer, although the latter may be confounded with malignancy unless caution is exercised.

Patient seventy-one years old, a widower, came under my care November 12, 1894. General senile changes prominent. He gave a history of having a sore on the penis about two years. He said it commenced as an excrescence at the base of the glans, and later had spread into the overlying foreskin. At time of examination he was much emaciated and very anæmic. He came for operation because of the incessant pain and hemorrhages which were becoming more and more frequent. At this time the entire glans had disappeared and a large fungating cauliflower mass of neoplasia formed a thick annular collar over the deeply concealed and retracted urethral office. Owing to the destruction of the meatus-urinarius and disappearance of its mucosum, it was so contracted as to barely admit the tip of the finest filiform bougie; as a consequence of this, micturition was difficult and painful. There was extensive invasion of the groin glands, and ulcers had erupted up through the pubic hair.

*Treatment* of the case had varied from soothing lotions and ointments to the use of charring caustics. He had lost the head of his penis through the application of a "healing plaster" in the hands of a cancer quack. At the stage of invasion when he entered hospital, it was evident that any operative procedure must be only palliative, for the purpose of relieving pain and securing a temporary truce. In these cases, where permissible, desexualization is the ideal operation; a better urethral opening cannot be secured, and the dangers of operation are no greater than when we only amputate the penis. But our patient, aged as he was, would not consent



to the sacrifice of his testes. In operating, the inguinal areas were widely opened and the pubic areas cleared out. He rallied well from operation and enjoyed great comfort for six months, when urinary troubles appeared. Tenesmus and strangury in urination, with the character of the urine, showed that the disease had advanced upward and opened a passage from the rectum into the bladder. A suprapubic cystotomy afforded some relief. Ten months after original operation he passed away.

Patient seen by me, at request of Dr. James Moran of this city, four years ago. He was forty-seven years old and married. Had sore on his penis for a month; denied illicit intercourse; no hereditary history of cancer. His wife, a very intelligent and inquisitive person, insisted on being present at examination; was highly apprehensive, as a physician called in before myself had pronounced the lesion malignant.

On examination I found he had a phimosis, the proliferating mass burying the glans and making retraction of the foreskin impossible. On the right side he had an intumescence with all the features of a bubo. After a thorough cleansing of the part and by the employment of cocaine, I was enabled to expose the meatus, when by a milking movement of the penis, a muco-purulent discharge issued through. Now a free linear incision was made through the prepuce, the glans exposed, the fungating mass burned through with nitric acid, and Lafayette mixture prescribed. In a month's time all had cleared up and his "cancer" was cured.

Patient sixty-one years old, never married, came under my notice October 12, 1899. This patient was referred to me by Prof. Wm. S. Gottlieb, at the West Side German Dispensary, for surgical treatment. He had an ulcer on the penis for three months. What gave the case peculiar interest was its complex clinical features; for, while the microscope pointed to its epitheliomatous character, still he had gonorrhœa, and, besides, had tumefaction in each groin, which entirely yielded to local treatment. But the odor of the discharge was of that peculiar quality which we never find except in malignancy; and, moreover, the spongy excrescence was altogether too painful for chancroid. He confessed to having exposed himself to venereal disease, and he held to it that he only had a chancre. When it was explained to him that he must submit to an amputation of his penis, he demurred. This being refused, the parts were cleansed and cocainized, when a free, deep section was made of the fungating material. With fine catgut sutures the breach was closed. Union was so prompt and complete that I was suspicious of true malignancy, but the unfortunate patient was highly elated with the result.

Within a week the signs of return in the scar were evident. Caustics were unavailing. Discouraged and chagrined, early in June he ceased to report and disappeared.

Cancer of the scrotum is an unusual lesion in this country. The above is the only case ever coming under my observation in my own practice. Percival Pott was the first who gave us a clear idea of its pathological anatomy. He designated it "chimney-sweeper's cancer," because it was so often met with among those who cleaned chimneys in London. Some believed that the irritation produced by soot was an active factor in its production. Earle saw cancer of the hand in a gardener who used soot by sprinkling it with his bare hand on plants. Malgaigne saw this type

of ulcer on the ear, cheek, nose and lips of chimney sweeps. But we may have scrotal cancer from other causes, evidently, as it has been frequently seen in foundry-workers; and Chauffuss tells us that it is very common among the mule riders in the mountains of Mexico. (Reclus et Duploy, *Chirurgie Pathologique*, Vol. VI., p. 329.) He ascribed it to the long mounts and badly constructed saddles. In treatment, Kocher advised that whenever the infiltration extended into the tunica-vaginalis, we should castrate. Pott, on the contrary, recommended that when the testis or its tunics were involved, or there is an extensive invasion of the inguinal ganglia, operative measures of any kind are interdicted, as in these cases relapse is always rapid and fatal, the viscera being generally attacked. Paget, Humphrey, and others, however, record cases of this description in which recovery followed excision of the ulcer and clearing out of the groin, the patient, surviving more than three years, free from any return.

It is worthy of note that, with rare exceptions, epithelioma is the type of histologic changes.

#### RECORD OF CASE—EPITHELIOMA OF BASE OF SCROTUM.

Patient aged fifty-three years, a laborer employed in a foundry. Had good health and no local trouble until six months previous, when he said he, for the first time, noticed a painful wart at base of the scrotum. Later this ulcerated and became so sensitive that he was obliged to discontinue work. When he came under my notice he was much reduced in flesh, though without any organic disease. The ulcer, which occupied a large area of the base of the scrotum, presented the typical features of epithelioma. Tuberculosis and syphilis were ruled out by the clinical history of the case and general character of the tumor. There was no evidence of invasion of the inguinal glands, or spreading into the tunics of the testicle. Excision was recommended and performed. The scalpel was sent through, wide of the infected area, and, although we were permitted to castrate if we thought desirable, yet, as the testicle and envelopes were found immune, they were left *in situ*.

Healing was prompt and, although one year since removal, there are no signs of relapse.

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**Citrophen.**—Heldingsfeld (*Allgem. med. Central. Zeitung*), who has previously published his results with citrophen (*Deut. med. Zeit.*, 1895, No. 91), gives in tabular form his further experience of the compound in thirty-six cases of various diseases. He found it especially useful in rheumatism of joints and muscles (no case of acute rheumatism mentioned in the table). A few doses of 0.5 grams (say gr. vii. to gr. viii.) are usually sufficient, amounting altogether as a rule to a total of 8 to 10 grams. It was not so effective in pyrexia, but it was useful in some cases of neuralgia which were not of organic origin in influenza, especially as regards the severe headache; in acute tonsillitis. The author has never observed any ill-effects from its use, either toxic or cardiac.—*Lancet*.



THE BACTERIOLOGY OF PNEUMONIA.<sup>1</sup>

BY R. B. H. GRADWOHL, M. D., of St. Louis,

Bacteriologist to the St. Louis City Hospital.

OSLER says that pneumonia is an infectious disease characterized by inflammation of the lungs, toxemia of varying intensity, and a fever that terminates abruptly by crisis. The micrococcus lanceolatus of Fraenkel is present in a large proportion of cases. He refers of course to acute lobar pneumonia, and I shall discuss that affection in a bacteriologic way. Broncho-pneumonia is not so often caused by any one particular micro-organism, although some have claimed that the micrococcus lanceolatus is present in about one-half the number of cases of this disease. In my experience, where an opportunity was given to study broncho-pneumonic lungs, the micrococcus lanceolatus was demonstrated in all cases; not alone, however, but in association with other micro-organisms, particularly the pneumo-bacillus of Friedlander. No attempt has been made to demonstrate a specific agent for broncho-pneumonia. Likewise, although we really cannot say that the micrococcus lanceolatus is the *specific* cause of all cases of acute lobar pneumonia, still it is present in quite a large proportion of the cases, and that warrants us in asserting that it is the most common cause of pneumonia. We recognize the fact that pneumonia may be due to other micro-organisms—for instance, rarely, the pneumo-bacillus of Friedlander, the streptococcus pyogenes, the staphylococcus pyogenes aureus, the bacillus typhosus, the diplococcus intracellularis—and we also recognize the fact that lobar pneumonia may be due to an admixture of any two or any three or more of the above mentioned micro-organisms.

It seems in order to say something about the historical aspect of this disease from a bacteriologic point of view: in 1881 Sternberg demonstrated an encapsulated diplococcus in his own saliva, which micro-organism was fatal to rabbits when inoculated subcutaneously, death being due to a so-called "sputum septicemia." Pasteur also demonstrated the same micro-organism in the saliva of a child dead of hydrophobia. The relationship of this micro-organism to pneumonia, however, was not seen until the publication of Fraenkel's work in 1884. Some confusion existed at first between this diplococcus of Fraenkel and the pneumo-bacillus isolated by Friedlander in 1883, but this confusion readily cleared up, and we now know that the two micro-organisms are separate and distinct, and that the pneumo-bacillus of Friedlander is not so often the causative factor in the production of acute lobar pneumonia as is the diplococcus of Fraenkel. This pneumococcus of Fraenkel, or micrococcus lanceolatus or diplococcus pneumoniae, as it is known, is a lancet-shaped diplococcus surrounded by a capsule when seen in preparations from the lung or from the blood of an inoculated animal, but this capsule disappears after the micro-organism is cultivated upon artificial media. It grows on almost all the ordinary media, showing a variety of forms and rapidly losing its virulence under artificial growth conditions. The weight of opinion seems to favor a slightly alkaline medium for the most abundant growth. It grows best

<sup>1</sup> Read before Alumni Association of Washington University Medical Department, January 11, 1900.

on a special medium composed of bouillon, two parts; ascitic or pleuritic fluid, one part. To overcome the attenuation which follows artificial growth, it is advisable to pass the micro-organisms frequently through the bodies of susceptible animals. The micrococcus lanceolatus is quite pathogenic for mice and rabbits, less so for guinea-pigs, dogs, cats, rats, and sheep. Subcutaneous inoculation into these animals is followed by the so-called sputum septicemia, death ensuing on the second day after inoculation. A pneumonic state of the lung is not induced by such an inoculation, intrapleural inoculation being necessary for the production of such a state, and sometimes that fails.

The micrococcus lanceolatus is found in the saliva of many apparently healthy individuals; it is found in the rusty sputum and lungs of people sick with acute lobar pneumonia; it has also been found in the cerebro-spinal fluid of persons sick with meningitis; also in cases of broncho-pneumonia, serofibrinous pneumonia, pleurisy, empyema, purulent otitis media, and in the purulent secretions from phthisical lungs. It may cause inflammation of almost all the serous membranes of the body—the endocardium, the pericardium, the meninges. From a consideration of the wide-spread distribution of the micrococcus lanceolatus in these several diseases, it would seem but fair to question the identity of these different micro-organisms in so many different diseases. After reviewing all of the work that has been done in this line, it can be concluded that it is really the micrococcus lanceolatus which is so frequently encountered in these different pathologic conditions. Diminished though the virulence of the micro-organism may be in some conditions, that virulence may be raised by technical procedures and a “rejuvenated” and virulent classic pneumococcus finally separated.

In this connection I would like to call attention to the bacterial flora of the lungs of man. With a view of determining the relative frequency of occurrence of the micrococcus lanceolatus in apparently normal lungs and also in diseased conditions of the lung, I undertook to make bacteriologic examinations of the lungs of patients dying in the St. Louis City Hospital. This work was carried on by me until data were obtained which convinced me of a hypothetical idea which I had had in mind for some time. I examined forty lungs and found the following:

The micrococcus lanceolatus was found in every case examined, either alone or in association with other micro-organisms. The disease conditions with which I dealt were mostly phthisical conditions; about half of the cases were apparently normal lungs; there was one case of diphtheria where I found both the diphtheria bacillus and the micrococcus lanceolatus; one case of abscess of the lung where the micrococcus lanceolatus alone was present; four cases of lobar pneumonia where the micrococcus lanceolatus was the only micro-organism present; three cases of broncho-pneumonia where the micrococcus lanceolatus was present in association with the streptococcus pyogenes, the pneumo-bacillus of Friedlander, and the staphylococcus pyogenes aureus; one case of typhoidal pneumonia in which both the bacillus typhosus and the micrococcus lanceolatus were present. In short, the results of this investigation showed me that the micrococcus lanceolatus is an inhabitant of nearly all lungs, and that it only needs an exciting cause to set up a pneumonic



process. Beco has recently conducted a similar series of experiments and arrived at the conclusion that in lungs that are apparently entirely free from morphologic change, isolated pathogenic species may be encountered; these pathogenic species are especially those which are considered as the pathogenic agents of the various broncho-pulmonary infections, and are, in order of frequency, the pneumococcus, the streptococcus, and, more rarely, the staphylococcus.

It seems, then, that in normal lungs and in many diseased lungs we find the pneumococcus frequently present. It needs, then, no further multiplication of bacteria to set up a pneumonia, but only the existence of conditions which lower the resistance of the lungs and permit them to be attacked by an acute inflammation of the kind seen in pneumonia. As advanced by Andrew H. Smith, the proposition that the lung is the seat of pneumonic processes because of anatomical and physiological reasons is quite reasonable. We know that the lung contains two circulations, one subservient to nutrition and one to function. In pneumonia the function suffers and the nutrition is kept up. Smith says that pneumonia is not an inflammation but is a germ culture, the medium for which is supplied from the functional vessels. The natural history of the disease is this: (1) a predisposing depression, favoring germination of the pneumococci; (2) a progressive invasion of colonies settling in the tubes; (3) an exudation of fibrin, which, by the way, makes an admirable breeding ground.

Aside from the cases of pneumonia which seem to arise without any special source of infection, we often see in hospital wards cases infected one from the other; thus in the City Hospital I have seen three cases arise, each being infected from the patient in the adjoining bed. Similar instances are on record showing the contagious element in the disease.

Bordoni-Uffreduzzi has thrown some light on the duration of life outside of the body of the micrococcus lanceolatus. Pneumonic sputum attached to clothes, when dried in the air and exposed to diffuse sunlight, retains its virulence, as shown by injection into rabbits, for a period of nineteen to fifty-five days. Exposed to direct sunlight, the same material retained its virulence after twenty-four hours' exposure. The source of infection for most people is not necessarily dried sputum, but may be found in the throats of apparently healthy people, or in the sputa from patients with any form of broncho-pulmonary affection, where we find the pneumococcus nearly constantly present.

How the micro-organism gains entrance into the lung in these cases of contagion, and whether it acts only by its own power or whether it acts conjointly with the micrococcus lanceolatus which resides in normal lungs, we are unable to state. The point is, that in order that a pneumonia may arise in any given case, there must be some systemic depravity, some lowered resistance on the part of the organism. The fact that drunkards are quite susceptible to pneumonia may be explained by the lowered resistance in these individuals.

The typhoid bacillus occasionally is capable of setting up a distinct form of lobar pneumonia during the regular course of typhoid fever: this is what is known as typhoidal pneumonia. I saw one case of this kind last summer in the City Hospital, in which case I demonstrated the typhoid bacillus in the lung *post-mortem*, and also in the pleuritic fluid.

Of course the lobar pneumonia which often arises during the course of typhoid fever is not always due to the actual presence of the typhoid bacillus in the lung: it is usually due to the micrococcus lanceolatus, and it is called pneumo-typhus.

I would like to call attention to the confusion that prevails among some writers as to the rôle of the pneumococcus in the production of epidemic cerebro-spinal meningitis. Among the older writers especially we see references to the *pneumococcus* as the cause of spotted fever. The work of Jaeger, Councilman, Mallory and Wright, Class, Osler *et al.*, have shown us clearly that the diplococcus intracellularis is the prime etiologic factor in the production of epidemic cerebro-spinal meningitis. In thirty-four cases seen by me during the past winter, that is, 1898-99, the diplococcus intracellularis was demonstrated in every case, adding another confirmation to the work of the above. Netter, in the *Twentieth Century Practice*, seems to doubt the specificity of the intracellular diplococcus in spotted fever, because he claims to have found the pneumococcus in many cases of that disease. From a perusal of his work, however, it can be seen that he has confused the pneumococcus with the diplococcus intracellularis, and that he was really dealing with the diplococcus intracellularis in all these instances. This was first pointed out by Osler in his recent Cavendish lecture on the etiology and diagnosis of spotted fever. We admit that the pneumococcus is an agent often concerned in the production of sporadic cases of meningitis, but in the face of all these observations, we can no longer doubt the specificity of the diplococcus intracellularis in epidemic cerebro-spinal meningitis.

A word or two is in order as to the toxins of the micrococcus lanceolatus. Practically, we know that the micro-organism produces a toxin which is responsible for the toxemia which occurs in this disease. Washbourn has prepared an antipneumonic serum which protects rabbits against ten times the fatal dose of pneumococci. A pony was subjected to immunization for a period of five months, allowed to rest three or four months until the living pneumococcus present were dead, and then bled. But little practical results have been obtained, however, in the treatment of individuals with antipneumonic serum. The fact that individuals are not rendered immune after one attack of the disease, and the fact that recurrences are often frequent, speaks against the probability of bacteriologists ever obtaining an effective antitoxin for a *cure* of the disease.

In conclusion we can say that—

*First.*—The micrococcus lanceolatus is responsible for seventy-five per cent. of the cases of acute lobar pneumonia.

*Second.*—That the pneumo-bacillus of Friedlander is not often the cause of pneumonia, but is to be regarded more in the light of an accidental micro-organism.

*Third.*—That suitable conditions must prevail before the micrococcus lanceolatus can excite a pneumonia—systemic depravity, in other words.

*Fourth.*—That the pneumococcus is a resident of nearly all normal lungs, and that it only requires lowered resistance on the part of the lungs and body to set up a typical pneumonia.



*Fifth.*—That the pneumococcus, although ubiquitous in its localizations in the body, is especially active when brought in contact with serous surfaces; and, finally, that the pneumococcus is not the cause of epidemic cerebro-spinal fever, the diplococcus intracellularis being the specific agent in that disease.

450 Century Building.

## TREATMENT OF CHRONIC GLAUCOMA SIMPLEX BY GALVANIZATION OF THE CERVICAL SYMPATHETIC.

BY DR. ALLARD (France).

[Translated from the "Clinique Ophthalmologique," October 25, 1899, by Edwin C. Renaud, M. D., of St. Louis, Assistant in Ophthalmology, College of Physicians and Surgeons.]

**B**ECAUSE of the favorable results I have obtained in the treatment of exophthalmic goitre by galvanization of the antero-lateral region of the neck with a current of high intensity, I was led to try galvanization, with a current of equal intensity, of the cervical sympathetic in cases of glaucoma simplex.

I may add that I have been much aided in these researches by Dr. Javal, who has often assisted me by his wise counsel.

In the two affections, glaucoma and exophthalmic goitre, surgeons have employed of late years the resection of the superior cervical sympathetic ganglion. The immediate effects produced on these morbid phenomena show that it is truly this conductor (the sympathetic) that should be reached—but is not the remedy worse than the disease? Complications are so frequent, the disorders produced may be of so grave a nature, that the physician always hesitates to counsel such serious intervention.

I have demonstrated, I believe, in a study of the electric treatment of exophthalmic goitre, which appeared in "*les Annales d'Electro-Biologie*," that it is possible to modify the excitability of the great sympathetic nerve by the action alone of the galvanic current continuously applied, with sufficient intensity. The facts that I will place before you to-day are a new proof, and will show the evident action of this electrization on simple glaucoma.

My experiences, relatively few in number, are nevertheless very demonstrative, because the very good results I have observed have always been controlled and measured each time, when possible, by brother oculists who have been willing to confide cases to me.

Dr. Javal, on the one hand has presented his cases at the Academie de Medicine, at the same time making a few remarks about the treatment that I had applied. Dr. Valude also made known by researches at the Ophthalmological Congress at Utrecht.

I try in chronic simple glaucoma to utilize the sedative action of the positive pole, by attempting to localize an intense current throughout the whole length of the cervical sympathetic.

This is how I operate: The negative pole is furnished with an ordinary supply electrode, covered with chamois skin and moistened with warm

water, and is applied to the nucha and the back. The negative pole is tongue-like in shape, eight to ten centimeters in length and two to two and one-half centimeters in width. This electrode is applied parallel to the anterior border of the sterno-mastoid muscle in such a manner that it sinks into the sulcus, which is found there, from the angle of the jaw to the top of the sternum, where it is carefully kept in position by a rubber band wrapped several times around the neck. The current from a battery of piles or accumulators is slowly increased by the aid of an easily regulated rheostat or a modifier of potential. It is advisable to test your patient's susceptibility as you proceed. As a general rule you can arrive at an average of fifteen to twenty milliamperes with an electro-motive force of twenty volts. The duration of the electrization will also vary with the intensity of the current and the susceptibility of the patient. That is to say, for instance, if a current of twenty milliamperes is well supported, it is applied for fifteen minutes; if a current of only fifteen milliamperes is used, it is applied for twenty minutes. In fact, the current must be turned on very gradually, and only if employed in this careful manner can syncope and vertigo be avoided. It is of the greatest importance to carefully avoid all shock by too strong a current, which would produce an excitation of the nerve, an action diametrically opposed to the effect that we desire. It is in this manner that I have applied the electrical treatment in ten cases of glaucoma, giving on an average of three treatments a week. This number of applications per week generally suffices.

(Dr. Allard then gives a rather lengthy although a thorough and complete history of these ten cases, into the details of which I will not go, but simply give his *resume* of the cases.)

In reviewing these ten observations which I have just reported, only two could not be considered to be illustrative, despite the amelioration that was looked forward to. In case one the treatment was interrupted by the occurrence of severe conjunctival inflammation; in case two the treatment has not yet been completed.

In two cases where the vision was irremediably lost, the electrization was entirely successful after several applications in quieting the periorbital pains, which were violent and had persisted in spite of all other treatment. These were cases five and six.

In three glaucomatous eyes the vision was improved after less than two months of treatment (in from twelve to fifteen sittings. Cases two, four and eight).

In another, a case of glaucomatous atrophy, which was getting rapidly worse before the electrization, the progress of the disease was arrested (case 3).

Also, two patients in whom the affection was taken at its incipency can be considered as cured, in so much as their visual acuity and visual fields, which had been sensibly diminished at the beginning, became normal again after fifteen or twenty sittings (cases seven and nine).

It appears from these facts that positive galvanization of the cervical sympathetic by a current of strong intensity, such as I have described, possesses a certain efficacy upon chronic simple glaucoma. The sedative action of the positive pole, by diminishing the excitability of the sympa-



thetic, produces a similar action, but much attenuated, to that of section of the nerve. In effect these conclusions can be drawn:

*First.*—This procedure produces a decided diminution of the intra-ocular tension.

*Second.*—A notable diminution in the phenomena of pain, which may also be completely relieved and disappear.

*Third.*—An amelioration of vision, variable consequent to the degree of glaucomatous atrophy, computed by the augmentation of the visual acuity and of the visual fields. The vision may even become normal again, provided the affection be taken under treatment at its beginning.

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**Personal Infection in Typhoid Fever.**—Dr. Jos. Priestley, the medical officer of health, has recently reported an exceptional increase in the number of cases of typhoid fever in the parish of Lambeth. He has traced the source and spread of three localized epidemics, and considers the facts noteworthy and interesting from an etiological point of view, as showing in all probability that typhoid fever spreads by actual contact oftener than is commonly supposed. The first case was in a woman where the disease was not recognized until it had run a few weeks of its course; largely owing to this circumstance the disease spread (1) to a child living in the same house; (2) to two children living in the opposite house, one of whom communicated the disease to a young man who shared the bed with him; and (3) to a woman, a friend of the first patient, who lived two doors away. The second group of cases commenced in a man who sickened with obscure symptoms which did not admit of diagnosis until some four weeks had elapsed. (1) A lodger in the same house became infected; (2) a sister living in a street close by; (3) a friend living in the same street; (4) another friend in the same street, whose daughter subsequently fell a victim, and (5) possibly two other persons living in the same street. The third group began in a man who probably died of the disease without its true nature being diagnosed. His clothes were sent to his mother-in-law to be washed, and she became infected (1); as did also his brother-in-law (2), his sister-in-law (3), and his wife (4), all of whom lived in the same house. A friend's child (5) living next door became infected through the sister-in-law, and a boy (6) living in the same street, and who was a schoolmate of the patient's brother-in-law, is thought to have contracted the infection from the latter. Careful inquiries failed to reveal any infection of the milk, water or shell-fish, and by a process of exclusion Dr. Priestley is inclined to regard the spread of the disease as due to direct contact from person to person or to indirect contact—through infected clothes, food, etc. In conclusion, Dr. Priestley pays a tribute to the value of the Widal test, whereby he was able to make a prompt diagnosis of the condition.—*The Brit. Med. Jour.*, January 6, 1900.

## LONDON CORRESPONDENCE.

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**Influenza** is exceedingly prevalent in London just now, and assumes most fantastic and severe characters. The death-rate of the last month is the highest on record for the past fifty years—not in London only, but in almost every large town in Great Britain. Doubtless the weather we have been having of late has greatly added to the death-rate. A series of weather vortices have apparently been whirling over these islands, the one end of the spiral consisting of warm Southwest rain-bringing winds, giving us a period of wet, muggy weather for a week, accompanied with more or less gales and disasters of shipping; the other end of the spiral is taking up all the winds from the North and West, bringing with them frost, hail, sleet, snow, shriveling up passengers to and fro and bringing on violent attacks of bronchitis, emphysema, and all kinds of lung diseases, which have proved terribly fatal to the aged and to the young. I cannot say that we are free from these windy gyrations even yet; indeed, we look forward to the usual tempestuous blasts of March and April.

**Food Adulteration.**—This subject in its relation to public health has again made its appearance before the British public in the shape of an inquiry made by the committee appointed by the local government board to inquire into the use of preservatives and coloring matters in food. The value of borax as a food preservative has been recognized for centuries, and although practically no damage has been done to her majesty's lieges, but rather the reverse, by the use of borax and boracic acid, the detection of small quantities of these substances in butter, milk, jellies, beef essences, and even in fish, flesh, and fowl, has afforded interesting scientific amusement to many officers of public health and to chemists who have offered their results as evidence on the subject before the departmental committee. Practical demonstration and theoretical experiment are here found strenuously in opposition. Trade representatives who have used borax in the preservation of food testify to the great inconvenience and hardship which the abolition of the use of this substance would entail. Mr. Boseley, an analyst of considerable experience, estimated that fifty per cent. of dairymen in London used preservative boric acid; and he alleged that boric acid, though not nearly so good an anti-fermentive as salicylic acid, was becoming more generally used except in jams, for which it is not so suitable as the salicylic acid. Similar practical statements were made by Mr. Charles E. L. Gregson and Mr. S. Gibson Sinclair. No one can quarrel with these practical statements regarding the use of borax and boracic acid. On the other side, several witnesses with medical diplomas made some strange averments. Among medical officers of health was one Dr. Henry Hanford, medical officer of health to the Notts county council. This gentleman averred that his interest in the subject was partly due to the general ignorance among medical men in regard to the use of preservatives in food. "Ten or fifteen years ago," said he, "the subject received no attention from the medical schools," and he found that a very small number of medical men in practice knew anything about the subject.



At present the knowledge was confined chiefly to medical officers of health, like himself. Yet his knowledge is of the most presumptive character. He looks upon borax as a "harmless drug," with a slightly irritating effect upon the stomach, and liable, as he suspected, when introduced into milk to cause outbreaks of infantile diarrhœa, the cure for which was to stop the boracated milk. The merest tyro ought to know better than to allege borax or boric acid as a cause of infantile diarrhœa. It is certainly the latest hypothetical view on this subject. It is somewhat humiliating to find medical officers of health complaining that borax causes constitutional and local disturbances, outbreaks of infantile diarrhœa, eruptions of the skin, digestional troubles, as Dr. Alfred Hill, of Birmingham, maintains, without, as he says, "any positive evidence" as to whether it was possible for either borax or boracic acid to do so. Dr. Spottiswoode Cameron makes a statement of a similar character for similar reasons. "Infantile diarrhœa," said he, "was very prevalent in Leeds, and he had felt for a year or two back that possibly articles like boric acid put into the milk might have something to do with it." It is strange that medical officers of health should forget not only the history of medicine, but their own clinical experience. We are certain that few of them could indicate approximately the first recorded case of infantile diarrhœa or give a satisfactory account of the discovery of boracic acid. They did not occur synchronously. The historic knowledge of the witnesses on this subject was rather comically indicated by an analyst, who informed Dr. Bulstrode "that he could not, without reference to the files of the *Lancet*, say when boracic acid began to be used as a preservative," pathetically adopting the *Lancet* as his ready reckoner. Here the chemist went beyond his "retort," as a little research should show. "Nothing too much" is a safe motto for such persons as are "unanimously of the opinion that the use of antiseptics in food is injurious to health but cannot produce any direct evidence in support of their opinions."

**Doctors and Midwives.**—The vexed question of the doctor versus the registered midwife has disturbed the profession long before the days when Dr. Slop was called upon to support the dignity of his profession, and his services were called for on the memorable occasion of the birth of Tristram Shandy. "Bless my soul," cries Susannah, "my poor mistress is ready to faint, and her pains are gone; the midwife has fallen backwards upon the edge of the fender and bruised her hip, and desires you would come upstairs and speak to her this moment." "Human nature," as Sterne here remarks, "is the same in all professions." The midwife had just before been put over Dr. Slop's head—he had not digested it. "No," replied Dr. Slop, "'twould be full as proper if the midwife came down to me." . . . "I like subordination," quoth my Uncle Toby."

Indeed, considering the circumstances in which this historical personage was summoned to the case, we may obtain an insight into the motives by which the public mind has been guided during the current discussion which brings the doctor and the midwife so violently into collision at public medical meetings, and in sundry medical prints. After a hurried summons Dr. Slop and his armamentarium had arrived—"his tire tête—his newly invented forceps, his crotchet, his squirt, and other instru-

ments of salvation and deliverance." Upon expressing a wish to send upstairs to know how the patient was going forward, the husband answered: "I have ordered the old midwife to come down to us upon the least difficulty." Mr. Shandy held that the doctor was no more than an "auxiliary in this affair," and not so much as that "unless the lean old mother of a midwife above stairs cannot do without you."

The question at issue to-day between the various sections of the profession is whether the "lean old midwife" should, by present day legislation and registration, maintain this pre-eminence over the legally and fully qualified medical man, and continue supported by a new legal recognition as the doctor's "auxiliary." This question has received many answers. A perfect procession of deputations to the local government board, by committees of this or that body, or members of one society or another, has flitted before the public for the last twenty-six years, when Mr. Stansfield considered the machinery necessary for carrying out the object of obtaining education and registration for "the lean old mother of a midwife." Mr. Stansfield doctored these early proposals with anodynes and soothing promises, and in spite of some fitful efforts on the part of interested obstetrical societies under his treatment, the proposals slumbered in peace for at least fifteen years.

The process of agitation began anew under Mr. Rathbone, and a further series of proposals was framed and brought before Parliament. They met with the opposition they deserved. It was felt at the time and clearly pointed out that there was a preliminary objection to creating a class of partially educated women in one of the branches of medicine, lawful practice of which was already regulated by act of Parliament. In spite of a considerable amount of duplicity on the part of the promoters of this measure for the aggrandizement of "the lean old mothers of midwives," a violent opposition was aroused against it throughout the country. This was organized and carried to a successful termination chiefly by the vigor, industry and ability of Dr. Robert Rentoul, of Liverpool. He, like all other medical practitioners who were brought into contact with the medico-matrimonial aspect of medicine saw, like the majority of the medical practitioners in this proposal, dangers to the public from the creation of a half-educated class of medical women suddenly elevated into a position of legality by the mere fact of registration, possessing, therefore, powers for evil such as the midwife never previously possessed. It was pointed out with great reason that obstetrical practitioners with a full medical training were numerous enough in all conscience to undertake all the midwifery work which fell to their lot in this country. Dr. Rentoul sedulously urged that the legislation of this new class of obstetrical practitioners would be a source of loss of emoluments, and of professional usefulness to a great number of medical men, and in this he was supported by the sense of the profession. The public would assume that a registered midwife was a legally qualified and a legally responsible obstetrical medical practitioner. The midwife, if we may judge from previous methods, would certainly assume this and advertise the circumstances by glorified hand-bill and window emblazonments, to the detriment not only of the public, but, what is more serious, to the serious disparagement of the dignity and honor of the medical profession.



Even the most urgent of the promoters of such a bill were forced to admit this, and attempted to palliate it by averring that it was possible to limit the new obstetrical practitioner thus registered to what are called, in all simplicity of design, cases of physiological or normal labor, a phrase which displays a strange intermixture of shrewdness and simplicity when applied at this time of day. The difficult and treacherous cases, those of unforeseen accidents or sudden emergencies, were at once to be handed over by this new practitioner to whatever "auxiliary" the obstetricienne should happen to select from her green baize bag.

**The Harveian Oration.**—The Harveian oration was recently delivered at the Royal College of Physicians by Dr. George Vivian Poore, F. R. C. P. After alluding to the benefactors of the past year, Dr. Poore reminded his audience that they met upon St. Luke's Day, and after comparing the high state of medical knowledge and education in the first century with its almost total eclipse in the Dark and Middle Ages, he arrived at the conclusion that the "beloved Physician" the companion of St. Paul, had probably a more extended and more scientific grasp of medicine than the immediate predecessors of Vesalius and Harvey. But if science in the Middle Ages stood still, the handicrafts progressed, and found ultimate expression in buildings marvelous for their engineering skill and matchless beauty, which enshrined all that the most cunning hands, impelled by artistic imagination and devotional enthusiasm, could produce. Science can never know what it owes to the handicrafts. Not only has it been largely recruited from their ranks, but it is obvious that science cannot progress without the craftsmen to furnish it with instruments of precision. Chemistry could not exist without the glassblower; astronomy and microscopy owe their very existence to the optician, while medicine and physiology have advanced *pari passu* with the power of recording and measuring. All branches of science must unite in doing homage to the printer who made the Renaissance possible. Further, let us never forget that the Middle Ages were not without their high ideals, and that the mediæval priests were indefatigable in preaching charity. Many of our asylums and hospitals owe their existence to the exhortations and piety of ecclesiastics. To take only one example, let us not forget that St. Bartholomew's Hospital owes its existence to a mediæval prebend of St. Paul's, and that Rahere, by providing a place in which our Harvey subsequently observed disease, must be allowed to have some share in Harvey's great discovery. After briefly reviewing Harvey's life and work, Dr. Poore continued: Harvey was a born naturalist. He could not help observing. He was in this respect like Aristotle or Pliny, Nehemiah Grew, White of Selborne, John Hunter, and Charles Darwin. In the pursuit of natural knowledge Harvey never tired, because "the labor we delight in physics pain." He seems to have risen superior to the political violence of the time, and to have felt that the establishment of the facts of nature was of more importance than the ephemeral questions by which professional politicians seek ascendancy. No man can successfully interrogate nature unless he be constitutionally honest, and it is not, therefore, surprising that Harvey should have earned the entire confidence of the King and Lord Arundel. It must be admitted that, considering the rancor

of the times, he suffered singularly little at the hands of the Parliamentary party. His papers appear to have been destroyed by a mob which visited Whitehall, but no harsh treatment was ever meted out to Harvey by Cromwell or his subordinates. This fact is probably due not only to the guileless simplicity of Harvey's character, but to the sanity of the reformers. Cromwell could recognize a wise man when he met one, and, although he knew the uses of fanaticism, he was not one to tolerate the mastery of a mob. One cannot but contrast the safety of Harvey with the fate of Lavoisier, who, one hundred and fifty years later, was hurried to execution with the cry that "The Republic has no need of *savants*."

**The Study of Inebriety.**—Dr. William Westcott (coroner), the newly elected president of the Society for the Study of Inebriety, delivered his presidential address at the last meeting of the society, in which he briefly reviewed the history and mentioned the principal lectures which had formed the topics of discussion at its regular meetings. He said: "The lectures which have been read have all helped to throw light into the dark corners of our research; they have been representative of the most varied opinions, and have treated of the causes of inebriety, both public and personal, of the symptoms, diagnosis, and chances of the cure of the inebriate. And there have been essays on the treatment of individual cases; but the greatest amount of time has been spent upon discussions relating to the suppression of intemperance by legislative measures, and the rescue of inebriates from their surroundings and their cure by confinement in asylums, homes, and State institutions. It has been said in this direction that the work of Dr. Norman Kerr and the earnest support of this society and of its individual members have been of the greatest use, for it is impossible to doubt that the amendment of the Habitual Drunkards' Act, passed in 1888, and the Inebriates' Act of 1898 were both largely the result of the labors, personal energy and untiring industry of Dr. Norman Kerr; and he was ably supported by the councilors of our society, and by many of those who had contributed by their lectures to our knowledge of the subject. The first attempt to cultivate public opinion in favor of temperance legislation by means of medical men and their associates united in a society was made in New York in 1870. Your late president visited the United States, and became well known to many of these pioneers of inebriate reform. At his request the president of the American society, Dr. Parrish, and the secretary, Dr. Crothers, have visited us, and have addressed our meetings, and they gave much valuable advice and information. As a temperance reformer, Dr. Kerr established a world-wide reputation, both by means of his lectures and his printed works. Our society has also at various times been assisted by other eminent foreigners from Norway, Austria, and Poland. The aged Mr. Wieobycki will be remembered by many, and Axel Gustafson, as will the Chevalier de Preskow Marstorff, who gave important data as to drunkenness in Moravia. Our own members and associates have contributed most valuable information, results of research and statistics. Mention must be made of Dr. Alfred Carpenter, Dr. W. B. Carpenter, Dr. Benjamin Ward Richardson, Dr. George Harley, Dr. G. K. Poole, Dr. Usher, Dr. H. W. Williams, Dr. F. R. Lees, Dr. C. R. Drysdale, Dr. J. J. Pitcairn, Dr. W. H. Kesteven, and Brigade Surgeon Lieutenant-Colonel Pringle.



"During the last year we have been very much excited over Dr. Archdall Reid and his contentions on the temperance fallacy, so-called; this discussion was initiated by Dr. Norman Kerr himself, who reclaimed against Archdall Reid on the subject. In reply to this, Dr. Reid kindly gave a new statement of his views here in January last. In April we listened to Dr. Crothers on 'Treatment;' in July to Dr. Sims Woodhead, one of our vice-presidents, who, by his address on 'Heredity as a Factor in Inebriety,' caused so great an interest in this branch of the subject that a special committee on 'The Heredity of Alcoholism' was appointed, and has been holding regular meetings for research, and the collection of facts and opinions. A summary of these proceedings will be laid before the members in a future quarterly report. In October last very great interest was shown in the lecture given by Dr. Harry Campbell on 'The Craving for Stimulants,' and a useful discussion followed. The society has, however, not restricted its researches to alcohol alone, for papers have been read upon cocaine habit and ether inebriety. In this last case again, the attention called to ether drinking by our society and by the late Dr. Ernest Hart, resulted in an immediate check to the practice, excise regulations being the means. Our friend and member, Dr. W. L. Brown, gave us in January, 1898, a most valuable summary of 'Intemperance Among the Ancients,' and he pointed out the absence in those times of any organized public scheme for the promotion of temperance, adding that their efforts were directed rather to the production of a state of immunity in the individual so that he might become able to drink any amount rather than that he should be discouraged from drinking.

"The principal object of the society is the consideration of the best modes of restraint, and of regulations which tend to limit the opportunities for free drinking, and we must teach the cultivation of habits of personal cleanly life. Judging by analogy," he said, "the moderate drinker cannot be exterminated. Let us devote our energies to the restraint of the moderate drinker within limits defined by the medical profession, and to the absolute cure of those who have passed the borderland of moderation, who are ruining their own lives and the lives of those dependent upon them. For such must be deprived of their personal liberty until they have survived the craving which ruins them body and soul."

W. LANGAN BROWN.

**New Staining Forceps.**—F. J. Kalteyer (*Phila. Med. Jour.*) has devised a very clever method of staining cover-glass preparations of bacteria and blood. The forceps are so constructed that when a cover-glass is held by them they can be placed alongside of a Stender dish, the specimens being immersed in the fluid therein. Stains may be kept in these dishes instead of reagent bottles. These forceps are also constructed so that the height of contact of the jaws varies in different instruments, enabling one to economize the stains by immersing several specimens at the same time in a very small dish, the cover-glasses overlapping in tiers.

## NEW YORK LETTER.

The New York State Medical Society met in Albany last week, and was largely attended. This was the ninety-fourth annual meeting. Dr. A. MacFarlane, of Albany, reported cases of carcinoma of the stomach, which showed increased hydrochloric acid. The object of his paper was to show that no one symptom should be relied upon for diagnostic purposes. Dr. William C. Krauss, of Buffalo, read a paper on "Age, Sex, and Season as Factors in Nervous Disorders;" he divided life into six epochs, and he showed that each epoch had its own disturbances, dependent upon nerve-cell perturbations occurring during the evolution of the nerve centers. Dr. D. B. St. John Roosa, of New York, spoke highly of the Panas operation for strabismus; the importance of the operation lay in the fact that the muscles were stretched before dividing them, and that it required but one operation. Dr. A. Edward Davis, of New York, read a paper on the possibilities of the non-operative treatment of strabismus (the use of atropine, the exclusion pad, glasses and the stereoscope), which should be begun as soon as squint was discovered; so soon as there was found to be no improvement, then was the time to operate. Dr. T. H. Halsted, of Syracuse, read a paper on the significance of earache in children; recurrent attacks of deafness he referred to as being almost pathognomonic of adenoids in the pharynx. Dr. Harlow Brooks, of New York, read a paper on the pathological study of Weil's disease; Weil's disease, yellow fever, acute yellow atrophy, and phosphorus poisoning were all characterized by jaundice and parenchymatous degeneration of different organs. Dr. William H. Thomson, of New York, classified infectious diseases into (1) The Contagious Communicable Diseases, such as typhus, small-pox, measles, whooping-cough, etc.; (2) The Non-Contagious Communicable Diseases, such as typhoid, asiatic cholera, tuberculosis, etc.; (3) The Inoculable Diseases, such as surgical infection of wounds, hydrophobia, tetanus, malarial infection from mosquito bite, etc.

Tuesday evening, session was held in the Assembly Chamber of the State Capitol, and was devoted to a discussion of the "State Care of Tuberculous Patients." Dr. Edward O. Otis, of Boston, said that this disease caused one-seventh of all deaths. It was the most prevalent of all diseases, and it was curable in the early stages. He suggested that (1) consumptive hospitals should be established in or near the cities, regulated by municipalities; (2) the establishment of several State sanatoria favorably situated as regards climate, and for the open-air treatment, and yet not too far distant from the city. Dr. Vincent Y. Bowditch, of Boston, Massachusetts, made remarks upon the work accomplished at the State Hospital for Consumptives at Rutland, Massachusetts. The following percentages were given: arrested cases, 30.79; much improved and improved, 46.1; not improved, 31.23; discharged well, .85; died in hospital, 1.85. Dr. George Blumer, of Albany, read a paper on the infectious character of tuberculosis; the two most important sources of infection are by way of (1) the respiratory tract, (2) the alimentary tract. It was very



rare for infection to occur through the skin or the genito-urinary tract. Infection by the alimentary tract is more common in children than in adults. The rarity of primary intestinal tuberculosis is shown by the fact that out of one thousand autopsies, one instance occurred. Northrup only found three instances in post-mortem examinations with tuberculosis of the mesenteric glands alone. Dr. Edward B. Dench, of New York, in speaking of the inflammations of the middle ear, advised free incisions of the drum made early. The use of such ear drops as oil and laudanum he characterized as being worthy of being made a criminal offense. Dr. Roswell Park, of Buffalo, read a paper on the further investigation of cancer. Cancer is never seen on the back, save at points within easy access of the hands. It appeared on the face chiefly in those who use no soap. It seldom appeared on the lips of women. In two cases he reported cancer of the uterus was present in infants of two years of age. Dr. George Henry Fox read an article on the curability of leprosy; he advised a change of habitation, a cheerful disposition, and the use of certain drugs, such as chaulmoogra oil, etc. Dr. George Thomas Jackson, of New York, read a paper on the care of the hair. The present custom of abandoning the use of pomades and wetting the hair so much was responsible for the prevalent baldness. Hair singeing was most ridiculous as a means of preserving the hair. Dr. W. Freudenthal, of New York, reported a case of the discharge of the cerebro-spinal fluid through the nose. Scheppegegel, of New Orleans, published the only other reported case. These cases have nothing to do with nasal hydrorrhœa, nor with hay fever, which are purely of nervous origin. There was constant dripping from the nose day and night; before the dripping there were severe brain symptoms, which largely disappeared with the discharge. In the fluid was found some reducing substance, but no mucin. There was also present a neuritis optica. All the symptoms present were in favor of a tumor near the hypophysis cerebri; through the pressure of this tumor the fluid is expelled.

Officers elected for the following year were: Dr. A. M. Phelps, of New York, President; Dr. George Seymour, of Syracuse, Vice-President; Dr. Frederick C. Curtis, of Albany, Secretary; Dr. Ball, of Albany, Treasurer.

Gov. Roosevelt received the delegates at the Executive Mansion, and the annual dinner was held at the new hotel, Ten Eyck, and both were largely attended.

**An Electric Ambulance.**—St. Vincent's Hospital has the distinction of having placed in use the first electric ambulance. It is operated by an electric motor supplied from a storage battery. The cost was \$3,000, and it was a gift. It can attain a speed of ten miles an hour.

**Bellevue Hospital Employes' Poisoned.**—On January 18th one hundred and eighty employes of Bellevue Hospital were poisoned through the ingestion of poisoned food. What the poison was, or how it got into the food, is now being investigated by Superintendent O'Rourke. Although the employes were made very sick, there were no fatal results.

**A building** to be devoted to the study of anatomy and physiology is soon to be erected. On January 26th, at the twentieth annual dinner of the Cornell University Alumni Association of New York, at which the President of Cornell University was a guest of honor, the statement was made that an anonymous gift of \$80,000 had been received for the erection of a building for the study of anatomy and physiology. This statement was made by the President, Jacob Guild Schurman.

**Military Surgery.**—Major Louis A. La Garde, M. D., U. S. A., will deliver a course of lectures on this subject on Saturday mornings, beginning February 3d, in the University and Bellevue Hospital Medical College. It is to be regretted that this course of study was not instituted and carried out many months ago.

**Health report** for three weeks, ending January 27th: Measles, 2358 cases, 85 deaths; diphtheria, 848 cases, 135 deaths; laryngeal diphtheria (croup), 53 cases, 31 deaths; scarlet fever, 699 cases, 35 deaths; small-pox, 5 cases; chicken-pox, 111 cases; tuberculosis, 548 cases, 481 deaths; typhoid fever, 99 cases, 32 deaths; cerebro-spinal meningitis, 11 deaths.  
324 West Forty-sixth street. E. FRANKLIN SMITH.

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**A Visit to the Plague Districts in India.**—(By Lewellys Barker and Joseph Flint, *New York Med. Jour.*, February 3, 1900.)—A most interesting and instructive account of a visit to the plague-stricken districts of India is given by these writers. Particular attention is paid by them to the difficulties encountered by the health authorities in their measures to control the disease. The natives of India are very superstitious, and resent every sanitary measure as an attempt to deprive them of their religious and personal rights. On numerous occasions officers of the public health have been attacked and injured by these fanatics. Even the killing of rats, which are the natural disseminators of the disease, is objectionable to the Hindus. By telling horrible stories, exaggerating the acts of the European health officers and physicians, the minds of these natives are stirred up to such a pitch that many acts of outrage are committed both upon the public hospital staffs and upon private medical men. The writers point out the almost impossible task which confronts the authorities in their battles with these Oriental fanatics.

An account is given of the manufacture of Haffkine's anti-pest serum. This is nothing more nor less than dead cultures of the bacillus pestis. This serum is said to confer immunity, and is used in large quantities, being shipped all over India for this use. It is interesting to know that the high caste Hindus will not use the serum because it contains meat-juice. To overcome this prejudice, Haffkine is endeavoring to make a serum from gluten. For a time the natives were paid by the government to submit to the prophylactic immunization, but this was stopped for political reasons.





**A Manual of Surgical Treatment.** By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, etc. And F. F. BURGHARD, M. D. and M. S. (London), F. R. C. S., Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, etc. In six volumes. Volume I. The Treatment of General Surgical Diseases, including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and Their Complications, Infective Diseases and Tumors, the Administration of Anesthetics, etc. By DR. SILK. Lea Brothers and Co., Philadelphia and New York. 1899.

This initial volume of a series of six volumes upon surgery, to appear every six months, is certainly a valuable contribution to the literature on surgery and surgical treatment. It is a volume which is designed for those who have not had the opportunity for extensive reading on surgery, and will be of great help to such men. It is also an excellent text-book for the student.

**General and Local Anesthesia.** By AIME PAUL HEINECK, M. D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery, Northwestern University Woman's Medical College. One hundred and twenty-four pages. One dollar. G. P. Engelhard & Co., Publishers, 358-362 Dearborn street, Chicago.

This little book is carefully written, contains a world of information that every physician should know, and is consequently of inestimable value as an aid to those who are not well versed in this subject. It gives a complete consideration of the subject of anesthetization, and it is intensely practical throughout, as it should be. There is no more important branch of the physician's technical knowledge and skill than the administration of anesthetics, and it is surprising how little many physicians really know about it. This book should be carefully read and reread, and in that way much of the ignorance and want of skill in this matter will be cleared up.

**Christian Science—An Exposition.** By WILLIAM A. PURRINGTON, Lecturer in the University and Bellevue Hospital Medical College and in the New York College of Dentistry upon "Law in Relation to Medical Practice," one of the authors of "A System of Legal Medicine." E. B. Treat & Co., 241-243 West Twenty-third street, New York.

This work is a collection of articles upon the dangerous teachings of Christian Science and the limitations of medical legislation. Mrs. Eddy

is criticised, and although the author does not deny the extraordinary influence of suggestion, he believes that such suggestion and mental stimuli cannot operate upon babies. The appeal to parents to save children from the practices of these ignorant and reckless fakirs is strongly brought out.

**A Manual of Diseases of the Nose and Throat.** By CORNELIUS GODFREY COAKLEY, A. M., M. D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, etc. Illustrated with 92 engravings and 2 colored plates. Pages viii-536. Price, \$2.75. Lea Brothers & Co., New York and Philadelphia. 1899.

This book is exactly what its title implies—*i. e.*, a practical manual of our knowledge of rhinology and laryngology, written in a brief manner, and embodying at the same time all the important points worth knowing by the general student and practitioner of medicine. It is a good working volume for the beginner, and will find and fill a place in the medical library.

**The Principles and Practice of Modern Surgery.** For the use of Students and Practitioners of Medicine and Surgery. By JOHN B. ROBERTS, M. D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. New (2d) and revised edition. In one very handsome octavo volume of 838 pages, with 474 engravings, and 8 plates in colors and monochrome. Cloth, \$4.25, net; leather, \$5.25, net. Lea Brothers & Co., Philadelphia.

This is a very valuable addition to the surgical works that have appeared during the past. It is arranged in rational order and in a masterly style. The illustrations serve to greatly enhance the value of the book, and impress strongly on the mind of the reader what the text of the book aims to express. It is not too extensive to bewilder the student, nor is it too brief to interest the advanced reader. It is thoroughly up-to-date, giving chapters on the utility of the Roentgen rays in surgery; the latest approved methods of diagnosis and operation upon renal surgical disorders. The chapter on appendicitis is well worthy of careful reading.

**A Manual of Surgical Treatment.** By W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital, etc., and F. F. BURGHARD, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital, etc. In six imperial octavo volumes, with illustrations. Volume II., 382 pages, with 141 illustrations. Cloth, \$4.00, net. Lea Brothers & Co., Philadelphia and New York. 1899.

This second volume on surgical treatment is of the same standard of excellence as the first volume, which appeared some time ago. It deals with the subject of surgical *treatment* after the diagnosis is made, and its pages are filled with valuable hints which have been gleaned from the experience of the authors in their extensive surgical practice. It is well worth reading.



**Dudley's Gynecology.** A Treatise on the Principles and Practice of Gynecology. By E. C. DUDLEY, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (2d) edition. In one very handsome octavo volume of 717 pages, with 453 engravings, of which 47 are in colors, and 8 colored plates. Just ready. Cloth, \$5.00, net; leather, \$6.00, net. Lea Brothers & Co., Philadelphia.

Although the writings upon gynecology during the past five years have been very numerous, still we can confidently say that the book before us, Dudley's Gynecology, is one of the best that has yet appeared, and so deserves extensive reading by the medical profession. The subject of gynecology is presented in a masterly manner by the writer: this is true not only of the text, but also of the illustrations, which are as lucid as one could expect to get them. It is a great pleasure for us to recommend this work to the profession at large.

**Lea's Series of Pocket Text-Books—Histology and Pathology.** By JOHN B. NICHOLS, M. D., Demonstrator of Histology, Medical Department of Columbian University, and F. P. VALE, M. D., Assistant in Pathology, Medical Department University of Georgetown, Washington, D. C. In one handsome 12mo volume of 452 pages, with 213 illustrations. Cloth, \$1.75, net; flexible red leather, \$2.25, net. Lea Brothers & Co., Philadelphia and New York.

This work gives a brief *resume* of the subjects of histology and pathology. It is, of course, impossible in a volume of this size to do proper justice to vast subjects like histology and pathology. As it is designed merely as a pocket text-book, however, we can say that it gives as much, and in as thorough a manner, in a limited space as it is possible for us to get.

**A Practical Treatise on Diseases of the Skin.** For the use of Students and Practitioners. By JAMES NEVINS HYDE, A. M., M. D., Professor of Dermatology and Venereal Diseases in Rush Medical College, Chicago. New (5th) edition. In one octavo volume of 866 pages, with 111 engravings and 24 full-page plates, 8 of which are colored. Cloth, \$4.50, net; leather, \$5.50, net. Lea Brothers & Co., Philadelphia.

This very useful work has now reached its fifth edition and is thoroughly revised to keep pace with the latest advances in dermatology. The illustrations are excellent—a commendable feature in a book devoted to such a subject as dermatology, for without illustrations, no matter how good the text, the proper impression will not be conveyed to the mind of the reader. Some of the rarer forms of dermatologic affections, such as mycetoma, anthrax pustules, etc., are fully discussed and all that is known about them set down. It is a good working manual for student and practitioner.

W. B. Saunders, of Philadelphia, the medical publisher so favorably known to the profession, announces that Saunders' American Year-Book of Medicine and Surgery for 1900 will be issued in two volumes, instead of one, as heretofore. One volume will be devoted to medicine and one to surgery; each will be complete in itself, and the work will be sold separately or in sets. Prices per volume: Cloth, \$3.00, net; half morocco, \$3.75, net.

## MEDICAL NOTES.

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**Prompted** by the accidental good effects which followed the bite of a snake in a patient with tubercular leprosy, Calmette has introduced his "serum antivenene," which was used with success by Woodson in the treatment of a case of leprosy.

**An excess of indican** is found in the urine of patients with myelitis, brain tumor, etc. It has been confounded with sugar because it reduces copper and causes deviation of light to the left, but it does not ferment.

**A biliary calculus** has been known to have produced intestinal obstruction. Repeated enemata succeeded in overcoming the condition, with the passage of a large cholesterin stone.

**Thrush and Waiter** report an epidemic of typhoid fever caused by eating cockles, which upon bacteriologic examination, showed evidences of sewage pollution.—*Brit. Med. Jour.*

**Nash reports** nine cases of scarlet fever in which there was no eruption. The cases were traced to the milk supply.

**The manifestations** of syphilis in the heart consist in the formation of hard, irregularly shaped, yellowish masses between the ventricles, and similar appearances on the semilunar valves, according to May, in the *British Medical Journal*.

**Pearson emphasizes** the importance of accepting all cases of puerperal infection as of uterine origin.—*Brit. Med. Jour.*

**Beveridge reports** a case of cobra-bite cured by the use of Calmette's antivenene.

**The rheumatic** origin of tonsilitis is generally accepted, but Le Clerc points out (*Journ. de Med.*) that in very many instances an acute tonsilitis may be of gouty origin as well. He quotes one case in particular in which the beginning of an attack of gout was always preceded by a severe tonsilitis, which subsided so soon as the articular manifestations supervened. The same condition has been noticed by Rendu and Lécorché, who noticed similar cases. On the other hand, the throat manifestations of gout are apt to be irregular. The author's conclusions are that gouty tonsilitis is a distinct clinical entity; that it is a precursor of gout; that its characters consist in intense congestion and œdema involving the soft palate; that its duration may extend from some hours to three days; that treatment seems to have very little effect, but that it subsides on the appearance of arthritis.



A short time ago the use of sudan III. as a stain for the tubercle bacillus was introduced by Dorset. Other laboratory workers have failed, however, to stain the tubercle bacillus with this reagent, and Cowie suggests that this failure is due to the fact that there are several preparations of sudan III. on the market and that its chemical composition varies in different cases.

Manges recommends the use of a freely varied, soft diet in typhoid fever instead of the strict liquid diet commonly used.

The X-rays offer a good means of ascertaining the true state of the organs of the thorax, and therefore Williams (*Boston Med. and Surg. Jour.*) recommends the use of this apparatus to life insurance examiners.

A case of abnormal sweat-secretion from the face, chest and neck is reported by Marischlerx in the *Wiener klin. Wochsft.* He thinks that this is a neurosis characterized by an abnormal function of the sweat centers combined with mental depression.

Solutions of picric acid are efficacious in the treatment of herpes zoster, according to Delebesque (*Rev. de Ther.*). Use an aqueous solution of picric acid, 12 to 1000; soak absorbent cotton compresses in this solution, wring out until nearly dry, and then apply to the parts every four or five days.

Henpuye, or dog-nose, is a disease which Chalmers states is frequently met with on the gold coast of Africa (*Lancet*). In the nasal mucous membrane are first developed small bony swellings, symmetrically placed on each side of the nose. They are produced by the deposition of new bone under the periosteum. Pain, with the presence of a sore, are the first symptoms; then follows headache; obstruction of vision. The growth is more common in men. Although it is supposed to be due to the larva of an insect, Chalmers has seen no evidence to support this hypothesis: The condition is considered a localized osteoplastic periostitis.

Treatment consists in free incision of the mass and cutting away with bone forceps; also the administration of iodide of potassium.—*Phila. Med. Jour.*, January 27, 1900.

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Dr. Block, the French anthropologist, attacks the theory that thick lips are a denotement of sensuality, while thin and pale lips denote spirituality, firmness and elevated character. In a recent paper the scientist claims that the shape, size and color of the lips are pure race characteristics, and that in the hybrid peoples of Europe and America, where there has been such a general intermingling of races, a child may well inherit from not very remote ancestors lip forms that completely belie the actual character of the child, as indicated by the lip theory. Dr. Block's investigations satisfy him that really thick lips in the white races are always anomalies of freaks of nature.—*The Medical Times*.

## SURGICAL SUGGESTIONS.

**Local Treatment of Erysipelas.**—Of all the numerous applications which I have ever tried, I have found but one thing which has given the universal satisfaction afforded by the following prescription or something equivalent to it: Resorcin (or naphthalin), 5; ichthyol, 5; mercurial ointment, 40; lanolin, 50. The proportions of these ingredients may be varied, and I often increase the amount of ichthyol, especially when the skin to which it is to be applied is not too tender. The affected parts are anointed with this, and then covered with oiled silk or some impermeable material, simply to prevent its absorption by the dressings; the parts are then enveloped in a light dressing and bandaged. Whenever I have to deal with local evidences of septic infection, I use an ointment essentially the same as this, and have learned to count on it with more reliance than anything that I have ever resorted to. This one better thing hinted at above is Credé's silver ointment, which is to be used as described above, and has been already alluded to in the treatment of septicæmia. As the disease becomes mitigated, the ointment may, if desirable, be reduced with simple lard, and may be discontinued when local signs have disappeared. Absorption of any of these preparations may be hastened by a series of scratches over the affected area with the sharp point of a knife, not deep enough to draw blood, but deep enough to better expose the absorbent vessels of the skin.

Treatment of threatening phlegmon, or that which is from the outset phlegmonous erysipelas, must be much more radical, and consists primarily of free incision down to the depth of the deepest tissues involved. For instance, in treating dissecting and other septic wounds of the fingers this means incision down to the tendon-sheaths, often down to the bone itself. Unpleasant as this may be, possibly even crippling, it is only by such radical measures, early put into effect, that still worse disaster may be avoided. Finally, some aggravated local cases are well treated by a series of deep incisions, even with the use of the curette, the surface after careful clearing being kept buried under some antiseptic solution (silver lactate 1 to 500) or ointment.

PROF. ROSWELL PARK.

**Dr. S. Marx**, at a recent meeting of the New York Academy of Medicine, Section on Obstetrics and Gynæcology, reported this case, which had surprised him because of the good result obtained. He had used Credé's ointment, he said, in a number of other cases, but without observing any benefit therefrom. In this patient the highest temperature had been 102.5° F., and the highest pulse 120. The patient was a primipara in whom he had induced a premature birth at the sixth month, because of a grave and rapidly increasing melancholia. On the third day the temperature had risen suddenly to 101.5° F., and nothing could be found to account for this temperature except two caked breasts. At this time the physical examination had been negative. On October 17th, typical pseudodiphtheritic patches had been found in the vagina and on the vulva and cervix. The parts had been thoroughly cauterized with pure carbolic acid, chloride of zinc, and solution of iron successively, but without result.



The parts had then been irrigated very frequently, but there had been absolutely no improvement. Repeated chilly sensations had then been complained of. Having no faith in streptococcus serum, he had tried unguentum Credé. The ointment had been first used in the evening, and by the next morning there had been a decided improvement in the membranous patches. The ointment had been used every four hours for the first day. In seventy-two hours there had been no trace of the patches. The speaker said that he had never seen any such effect from other remedies.

**A case of tetanus** successfully treated by hypodermatic injections of carbolic acid is reported by Nietert and Amyx of the St. Louis City Hospital. In three other cases death followed infection, in spite of the administration of this drug.

**The Caldwell-Luc operation** for the relief of chronic empyema of the antrum of Highmore promises to be the operation of choice for surgeons. The technique of the operation, in the main, consists in removing the anterior part of the inferior turbinate body on the affected side, then entering the antrum through the canine fossa by means of cutting forceps; then cleaning out the cavity by means of a sharp curette, followed by closing the mouth wound with catgut sutures and the establishment of drainage through the antral opening into the nose.

**In phlegmonous inflammations** involving the hand and arm, it is a good idea to immerse the whole part in mild antiseptic solutions contained in an elongated fish-boiler. The parts may be allowed to remain in this solution for hours at a time.

**It is of great importance** to know the exact position of the patient and the direction whence the bullet came, in the search for bullet wounds.

**In hemorrhage** from a gastric ulcer near the pylorus, pyloroplasty is ideal.

**Syphilis** may be a predisposing agent, but it is not the immediate cause of stricture of the rectum.

**Trauma** is the chief immediate causative factor in stricture of the rectum.

The proper and intelligent local treatment of non-syphilitic ulceration of the rectum will minimize the occurrence of rectal stricture.

**The great danger** that confronts the obstetrician after he has had recourse to instrumental means for the delivery of the fetus is the occurrence of post-partum hemorrhage. Much can be done towards the prevention of this by appropriate treatment. A hot antiseptic douche into the uterus often stops a beginning hemorrhage. Massage of the uterus should also be practiced.

**White gangrene** is an x-ray injury which results from the destruction of the nerve supply of the affected tissues. It can be avoided by using the proper apparatus, making a not too long exposure, and having not too small a distance between the tube and the object skiagraphed.

## NEW INSTRUMENTS.

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**Rubber Gloves.**—The goal that surgeons and obstetricians are earnestly striving to reach is that of absolute personal cleanliness, a freedom from anything that can possibly infect a surgical wound or cause suppuration. The instruments, sutures, bandages and gauze can be made aseptic, but how to keep the "poisoning hands," as Lawson Tait aptly termed them, from conveying infection has been a problem of difficult solution that has hitherto baffled all attempts of surgical science.

There is no doubt, writes Carl Beck, but that the surfaces of the skin can be rendered perfectly aseptic, the bacteria in the skin surfaces can be removed, but the bacteria in the skin glands cannot, a fact that has suggested the advisability of wearing a covering for the hands. In the endeavor to find this needed covering, and so overcome the obstacle to a correct surgical technique, experiments have been made to discover a suitable glove. Leather gloves were first resorted to, but were soon discarded for many obvious reasons. Lisle thread and knitted gloves were next brought into use, but they were far from attaining the desired security from septic conditions, the chief points of objection being their permeability and their interference with the sense of touch, so important to surgical and obstetrical work. Gloves, to be of unquestioned merit, must embrace certain qualities. They must be impermeable, they must have no effect on the sense of touch, they must be skin-fitting, easily made aseptic and be in no way cumbersome, so that they may cause no trouble in the handling of instruments, threading of needles, or in the making of sutures.

Recently there has been put on the market a make of gloves toward which none of the objections raised against the gloves of earlier manufacture can be directed, and by their use true asepsis is finally placed in reach of the surgical profession. They are called the Standard Seamless Rubber Gloves. A very thin, but exceedingly tough grade of rubber is used in their make. The sense of touch is in no way interfered with, even when the greatest delicacy is required. They are tight-fitting, causing no trouble in the manipulation of instruments, in the making of sutures, and needles can be threaded as readily while wearing them as by the bare hands.

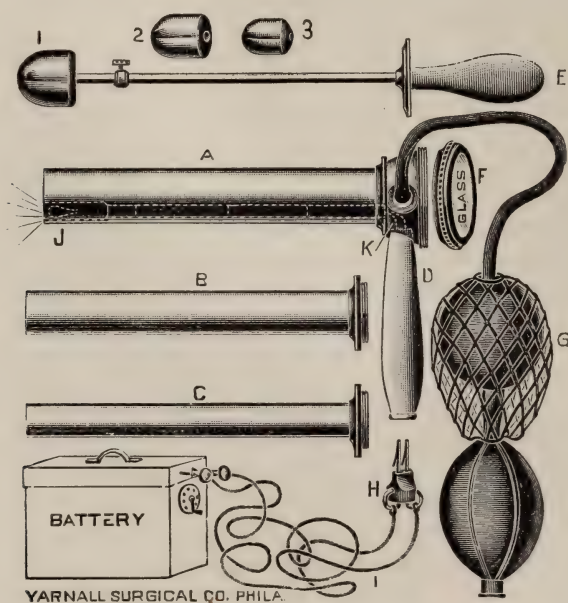
The rubber is not only impervious, but is also non-absorbent, with smooth surface from which pus can be readily rinsed away. No harm comes to the gloves from being repeatedly boiled, nor have any of the ordinary antiseptics a deteriorating effect upon them. Therefore, with reasonable care, they should last a long time, and such damage as may result from cuts or punctures from needles to fingers is easily mended by putting on a Standard Seamless Cot over damaged finger.

The appearance on the market of these gloves is a boon to the painstaking, conscientious surgeons, giving protection to the patient, reducing pus cases sequent to operations, and bringing immunity to the operator from the many dangers of infection.

In the emergency work of railway surgery rubber gloves will have a particularly valuable application.



**A Pneumatic Sigmoidoscope.**<sup>1</sup>—Having been especially interested in the study of rectal diseases for several years, I have frequently felt the need of some means by which the rectum and sigmoid colon could be examined thoroughly, and at the same time with safety. The instruments in established use have, in my hands, proved very unsatisfactory. Not being able to eliminate the element of danger incidental to the introduction of the long sigmoidoscopes, especially, as we had to depend entirely upon the sense of touch for their guidance through delicate and diseased portions of the bowel, I have been very chary in the use of them. Such instruments are dangerous in any but expert hands, and even then accidents have been re-



A, B, C, detachable tubes, 20, 25, 30 mm. in diameter, 18 cm. long; D, hand-piece containing electrodes K; F, screw-cap, fitted with plate glass; G, double air-bulb; H, I, connection and cords of battery; E, extension obturator; 1, 2, 3, different size tips for obturator; J, five-candle-power electric light.

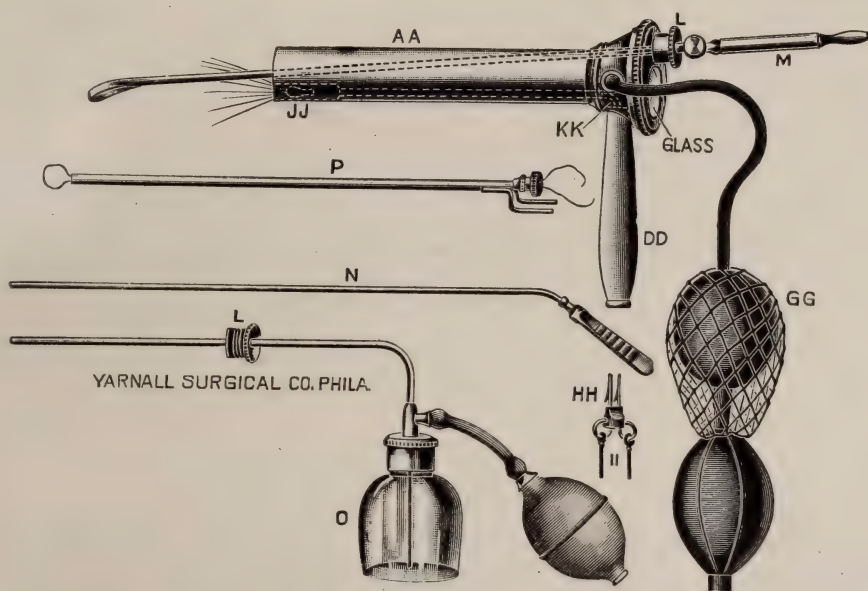
ported, with fatal results, which would not have occurred if the part of the bowel impinged upon could have been kept in full view.

To overcome the objections to the long instruments, as well as allow a more comprehensive view of the entire bowel to be obtained, I have devised a pneumatic sigmoidoscope, which I believe is unique in several respects. It consists of a tubular speculum, seven inches in length, with a screw-cap fitted with plate glass over the proximal end; two electrodes run through the handle of the instrument, arranged so as to furnish electrical connection for a five-candle-power electric lamp, on a movable holder, which, when in position, is a short distance from the distal end of and within the tube; just in front of the glass cap there is a small opening into the tube, with a projecting shoulder on the outer side to which the rubber tubing of a double air-bulb is attached. It is also furnished with

<sup>1</sup> Abstract of an article published in the *Philadelphia Medical Journal*, January 20, 1900.

an obturator, used only to facilitate the passage of the instrument through the sphincter muscles.

In using the instrument the obturator is placed in position, the distal end is anointed with vaseline and introduced into the rectum until it is just above the internal sphincter muscle; the obturator is now removed, and the holder containing the electric lamp is placed in position; the glass cap is tightened; the electrical connection with the battery is made, and the current turned on, after which by gradually pumping in air by means of the bulb the rectum is distended, being perfectly illuminated at the same time by the lamp. After thoroughly examining the lower part of the rectum, the instrument may be gradually pushed up the bowel until the sigmoid flexure is reached, without the least possible chance of doing



AA, tube, 30 mm. diameter, 18 cm. long; JJ and KK, electric lamp and electrodes; L, air-tight valve; DD, hand-piece; GG, air-bulbs; HH, electrical connection; P, electric cautery snare; N, probe; M, curet; O, spray apparatus.

any damage to the bowel, as it is inflated, and the end of the instrument is under the perfect control and guidance of the eye. In this way every part of the bowel above the sphincter muscles, up as high as the descending colon, may be examined most satisfactorily.

The hand-piece, which contains the electrical connections, is made interchangeable so that any size or length tube may be used. The practical set consists of three tubes: 20, 25 and 30 m.m. in diameter, respectively, and 18 c.m. in length. A tube 25 m.m. in diameter and 12 c.m. in length is probably the most convenient to use in examining the lower part of the rectum, while the same size tube, 36 c.m. long, may be found necessary to make the high examination in some cases. The obturator handle is made so that one set of tips with different length rods may be adapted to fit any of the various tubes described.



For the examination of the rectum alone, the left lateral or Sims' position is all that is necessary; but if the upper rectum and sigmoid colon is to be examined, it would be better to place the patient in the knee-chest position, in order to facilitate the dilatation of the parts. In ordinary cases it is not necessary to give an anesthetic, as the use of the instrument does not cause much pain. In patients with relaxed sphincter muscles it may be necessary for a pad of cotton, wrung out of water, to be held closely around the tube and against the anus by an assistant, to keep the air confined in the rectum. This precaution is unnecessary when the sphincter muscles are normal.

In order to make it possible to administer local treatment to the bowel, while it remains inflated and perfectly illuminated, I devised a special screw-cap with a smaller window, containing an air-tight valve arrangement, which will allow the introduction of the probe for making local applications; a curette for treating ulcerations; an electric cautery snare for the removal of rectal polypi, situated high up in the bowel; a spray apparatus, etc., all of which may be manipulated very easily through the medium and large size tubes.

The instrument has been in use for nearly a year, and has proved to be practical in every respect. It has been of great value in giving ward class demonstrations to the students at the Medico-Chirurgical Hospital. Tumors of the sigmoid colon have been shown with perfect distinction as to size, shape and color, general appearance, etc. I am, therefore, led to hope that it may have a fair trial by those doing rectal surgery.

Philadelphia.

WILLIAM V. LAWS, M. D.,

*Demonstrator of Surgery, Medico-Chirurgical College; Assistant Surgeon, Medico-Chirurgical Hospital.*

**Soft Chancre Reproduced in the Monkey.**—C. Nicolle (*Presse Medicale*, November 4, 1899) reports that he has succeeded in producing two soft chancres after forty-eight hours incubation in the forehead of a monkey. The animal, after the chancre had developed, scratched and picked the wound, and later on inoculated itself with seven other chancres in various parts of the body. Bacteriologic examinations of all the chancres thus produced showed typical pictures of the Ducrey bacillus, the same as found in the human chancre. A second monkey of another species, resembling the first, was inoculated with pus from the chancres of the first monkey, with the result that typical chancres were reproduced. These were not, however, invariably produced, and some of the chancres thus obtained showed a tendency to heal, which was not noted in the first monkey. A third monkey of still another species proved completely refractory. Nicolle points out that this difference in the resistive powers of different species should be taken into account in an explanation of the negative results of inoculation as recorded by other investigators. Other animals, such as rabbits, guinea-pigs, and mice, proved absolutely refractory to inoculation.

## NEW REMEDIES.

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**An Improved Cinchona Combination.**—(Abstract of a Lecture to the Sophomore and Freshman Class of the St. Louis College of Physicians and Surgeons.)—The most important alkaloid of cinchona is quinine, which should be present in the bark to the extent of two and one-half of one per cent. This alkaloid is very insoluble in water, a property common to most of the vegetable alkaloids. Being an alkaloid, it has basic properties, combining with acids to form salts, which are far more soluble than the parent alkaloid. This solubility develops the taste of quinine, which we all know to be intensely bitter. All bitters are irritants when ingested in sufficient quantity. The dosage of quinine then, depends partly on the susceptibility of the stomach to its bitterness; partly on the susceptibility of the system to its physiological action. Small doses, one-half to two grains, are common in tonic with all bitters, increasing the flow of gastric juice and stimulating digestion. Larger doses, five to ten grains, support the general vitality, stimulate the heart and increase slightly the mental activity. In malaria these doses are decidedly antipyretic, acting directly on the plasmodium which produces the malarial paroxysm. These doses, in the absence of malaria, will congest the brain and produce a sensation as of roaring in the head and ringing in the ears, which sounds are simply the cerebral circulation being heard.

For antipyretic effect in fevers other than malarial, the dose must be at least ten grains, and up to thirty grains or more. Many stomachs will not tolerate these large doses, and, except in malaria, there is little use in giving them, as they will only reduce the fever about two degrees, with an accompanying heart depression. In intermittent malarial fever, where treatment has been delayed, it is not unusual to find a temperature of  $106^{\circ}$  at the height of the paroxysm. I have seen several such high temperatures during the past summer. These fevers call for prompt reduction. Twenty grains of quinine sulphate should be immediately administered and the patient given a bath at  $80^{\circ}$  with brisk rubbing. I said that many stomachs will not tolerate these large doses; indeed, during a fever ten grains is frequently followed by nausea and vomiting. Pharmacy has recently been kind enough to supply us with quinine sulphate in a form tasteless and non-irritating. I refer to the preparation known by the trade name of quinoliv, made by the Davenport Drug Company, of Americus, Georgia. This consists of quinine sulphate eighty per cent. incorporated with olive oil twenty per cent., completely disguising the bitterness of the quinine and rendering it non-irritating. The dose is, compared to ordinary quinine sulphate, as five to four; thirty or forty grains may thus be administered in suitable cases where the stomach would not tolerate even five grains of ordinary quinine sulphate. To get the best results in intermittents, quinine should be administered about four hours before the expected chill, which, if the dose has been large enough, will be aborted.

It is well known that children will not take any medicine kindly until forced to, and learn that it does not taste bad. They can be cheated by quinine in a spoonful of syrup once only. If they receive quinoliv in syrup



there will be no after-taste, and the children will not have to be urged to take the medicine when the next time comes. Many adults and most children are unable to swallow a capsule or pill, here again comes in quinoliv to make them well and happy. It may be taken dry on the tongue and followed by a swallow of water. Do not make your patients take bitter, disagreeable medicines when it is absolutely unnecessary.

G. H. THOMPSON, M. D.,

*Professor Materia Medica and Experimental Medicine,  
St. Louis College Physicians and Surgeons.*  
224 Mermod-Jaccard Building.

**Kestin.**—ANTIBRULE CHEMICAL CO., St. Louis, Missouri. *Gentlemen:* Relative to samples of your new preparation, kestin, which were left at my office, I will state that while I find it impossible to make a thorough test of all samples left me, on account of the preparation in question being manufactured by a local firm, and also the many favorable comments as to its therapeutic value, I have used it in the following cases with results appended:

CASE 1. Mr. G. H. contracted ivy poison on hands, wrist and neck. The poison was extensive, painful and presented usual appearance. Used kestin as a lotion. The pain ceased in an hour, inflammation rapidly subsided; completely cured and healed in six days.

CASE 2.—Mrs. J. M. presented badly inflamed and cracked nipples with angry red lines extending down breasts: Kestin t. i. d. as lotion. Nipples and breast not painful after second application, and were entirely well after few days' treatment.

CASE 3.—Mr. L. C., acute gonorrhœal urethritis and blennorrhœa. Urinated twice daily for three days and once daily for eight days. With ten per cent. kestin and kestin as lotion for blennorrhœa, blennorrhœa completely cured in five days. Urethritis well on the twelfth day, when the patient discontinued. Did not pay his bill, so I considered the result bad.

CASE 4.—Mrs. E. H., chronic leucorrhœa and vaginitis of long standing. Had used various injections with little success. Has been using fifteen per cent. kestin solutions for twenty-two days, and is feeling better than she has for four years past. The case shows much improvement.

CASE 5.—Mr. C. B.; this patient presented a condition of chronic eczema of some years' standing which had resisted all treatment as regards permanency of cure: vigorous constitutional treatment, together with regulations of the diet order, with local applications of kestin. Patient is now in third week of treatment and shows marked improvement.

Other cases are under treatment and may be reported at a later date.

Very truly yours,

Union Trust Bldg., St. Louis.

DR. FRANK M. FLOYD,  
*Assistant, Dr. A. C. Bernays.*

**Announcement Concerning Pure Water.**—The question of pure water in St. Louis is not a question of the operation or non-operation of the Chicago drainage canal. The *bacillus colon communis* is present at all times in the waters of the lower Mississippi, proving that human sewerage is al-

ways present. The presence of Chicago sewerage in our water supply will affect its contamination only in degree.

The need of pure drinking water has long been realized by the medical profession, and is now thoroughly appreciated by the laity. The Crystal Water Company, established and in full operation, proposes to supply this need, and cordially invites the medical faculty of St. Louis to inspect its system. Its processes are all mechanical and automatic. No filtration is resorted to, because no process of filtration yet devised can do more than remove sedimentary matter—the least harmful of water impurity. Every scientist who has examined the system of the Crystal Water Company has heartily approved it. The water is uniformly pure, and challenges the most exacting scrutiny of biological science. The processes, being patented, are open to examination. By a mechanical arrangement, water is first relieved of free ammonia and sedimentary matter. It is then turned into steam and passes into a cylinder, where by an ingenious device ammonia steam is separated from pure water steam. The latter is then conducted into a large tin-lined still, where it is condensed and again distilled, passing after recondensation and as *aqua pura* to an aerator fifty feet in height. Here its descent is retarded by a filling of crushed sterilized granite and a system of tin disks, by which it is, so to speak, broken up into minute particles. Here it meets pure sterilized air, which is produced by the following means: The air taken from a high elevation, is pumped to the bottom of a large cylinder containing pure water. Escaping through fine perforations in the pipe, it is washed of all dust particles, etc. It is then piped through the furnace where it is sterilized by extreme temperature. It is then rewashed and as pure sterilized air enters the aerator, where it becomes incorporated with the descending water to a normal extent. At the conclusion of this system it pours into a tin-lined storage tank and thence to the filling apparatus. From beginning to the end of the system, the water has no contact except with pure block tin. Every bottle is cleansed, rinsed with pure water, and then put into a sterilizing machine where for half an hour it is subjected to about three hundred degrees of heat. Leaving this machine, the bottles are at once filled and hermetically sealed with a patent stopper. The displacement being of heated air, the water is fully protected. It is then ready for delivery. Placed in the ice chest and refrigerated externally, the perfection of drinking water is secured. Twice each day the stored water is examined by means of well-known and exacting tests for lime, chlorides, nitrites, ammonia and organic matter.

The Crystal Water Company thus undertakes to deliver a water that is perfect and uniform for all purposes, potable, pharmaceutical and surgical, and containing from seven to ten per cent. more oxygen than any other artificial or natural water.

The company respectfully submits to the medical faculty that in addition to its value for table uses, it is of special importance:

1. In compounding medicines.
2. In all cases of kidney trouble and diseases of the assimilative and excretory organs.
3. In surgical operations, by reason of its portability, oxygenation, and aseptic qualities.



4. In chemical analyses and the cleansing of containers and instruments.

5. In medical colleges, and especially for bacteriological work.

6. In obstetrical practice, hypodermic injections, and genito-urinary surgery.

7. In cases where laparotomy is performed, and in all operations upon the abdominal organs.

The company also offers to the medical faculty its "Crystal Lithia Water," which is carefully compounded and uniformly contains ten grains of pure carbonate of lithia to the gallon, thus enabling the profession to avoid the uncertainties which exist in all spring lithia waters, and to prescribe with exactness according to diagnosis.

It is also of economic value because it will keep any length of time without deterioration.

The company also produces an absolutely pure doubly distilled water, under a special label, exclusively for pharmaceutical purposes, and packed with reference to a minimum air contact.

The Crystal Water Company guarantees purity and uniformity, and will fill orders on shortest notice.

Respectfully,

CRYSTAL WATER CO.

Address company's office, Channing and Franklin avenues. Telephone No. 7514.

**Breast Pump and Cupping Instrument.**—Of the several breast pumps on the market, we know of none which is more serviceable for the indicated use than the Hoover instrument. With it the pressure is easily regulated, and it is possible to produce an almost complete vacuum. This instrument is also valuable for cupping, realizing which the manufacturers supply three cupping glasses with each outfit, the cost of which complete is \$1.50. The Hoover breast pump is manufactured by the Standard Mfg. Co., of Waterloo, Iowa.

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**It may be of interest** for us to know that the Chief of the Sanitary Corps in the Boer army is a German, Dr. M. Reinhard.

**All gunshot wounds** of the head should be carefully explored and the bullet and all fragments removed, if possible.

**Carl Beck** says that the precautions to be observed in catheterism are: sterilization of instruments, the hands of the surgeon, and the field of operation.

**Philip Mills Jones** reports two cases of lupus successfully treated by x-ray exposures.

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## EDITORIAL DEPARTMENT.

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### THE DISSEMINATION OF SCARLET FEVER THROUGH THE MEDIUM OF MILK.

In this issue will be found an article on the etiology of scarlet fever, by Dr. R. B. H. Gradwohl. The disease has been studied from a bacteriologic point of view, by Class and Gradwohl, and a diplococcus has been separated from scarlatinal cases, which diplococcus is evidently the true cause of the disease. It is interesting to note in the description of the biologic characteristics of this diplococcus scarlatinæ that the micro-organism grows in milk, but does not produce any visible change in it, such as coagulation or digestion, etc. This will serve to explain the dissemination of this disease, which has been from time to time traced to infected milk. It is important from a public health standpoint. And the fact that cows are known to be susceptible to scarlet fever, taken into consideration with the fact that the diplococcus scarlatinæ is probably excreted in the milk of these animals, will explain how this milk, which spreads the disease, is infected. Of course, it might also be infected by means of contamination with the hands of patients with scarlet fever, or from milkers or dairymen in whose families scarlet fever is present.

### LESIONS OF THE LIVER IN YOUNG CHILDREN.

Rowland Godfrey Freeman, of New York, gives a very entertaining discourse on lesions of the liver in young children, the observations being based on numerous autopsies held in the New York Foundling Hospital (*Archives of Pediatrics*, February, 1900). These observations are very



interesting for the reason that they serve to present a picture of what is actually seen in young children afflicted with various disorders, and will help to clear up the diagnosis of many conditions which are now often not diagnosticated. It seems, according to Freeman, that descent of the liver down the right side of the abdomen, so that the right lobe reaches below the crest of the ilium, occurs not very rarely in infants, and particularly in those in whom the liver is enlarged. Fatty livers occur very frequently in the infants and children dying at the Foundling Hospital, or in about forty-one per cent. of all cases. The condition of nutrition of the child, as expressed by the absence of fat in general, and wasting of tissue, apparently has no connection with the fatty condition of the liver, the condition of nutrition in the cases having fatty livers averaging about the same as in the whole number of cases. Fatty livers occur very rarely in the following chronic wasting diseases: Marasmus, malnutrition, rachitis, and syphilis, unless such condition be complicated by an acute disease. With tuberculosis, fatty livers occur not more often than with other conditions. Fatty livers occur most often with the acute infectious diseases and gastro-intestinal disorders. The two cases of cirrhosis of the liver examined by Freeman ran a comparatively acute course. The livers on section showed a marked hyperplasia of the so-called new-formed bile-ducts. Focal necrosis of the liver may be a lesion of measles.

#### ANTI-ALCOHOLIC SERUM.

An editorial in *The Lancet* for January 6, 1900, gives an account of a communication by Borca, Sapelier, and Thiebaut, before the Paris Academy of Medicine, on the discovery of a so-called anti-alcoholic serum, which has already created a great deal of excitement in the daily press, and which looks rather like a trade advertisement. The three observers in question started from the principle that in alcoholic intoxication, as in morphia intoxication, there is a preliminary period which is characterized by a tolerance for the drug and a feeling of desire for the poison. It is well known that microbes develop poisons which form in the organism antitoxins representing the elements of resistance on the part of that organism to the particular infection. Injection of these antitoxins into another animal enables that animal to resist the inroads of that micro-organism. Advantage was taken by these three observers of this principle in their work with alcohol. They produced tolerance in the horse by giving him alcohol by the mouth, and then found that the serum of this horse, when injected into other animals, produced a decided distaste for alcohol in these animals, so much so that they would not partake of food or drink which contained alcohol. Carrying their experiments further, they brought about the same state of affairs in habitual drunkards! These drunkards could no longer drink absinthe, brandy or rum, *but their taste for wine remained*. Needless to state, this "thirsting serum," which does away with the hungering for brandy but preserves the taste for wine, was received with smiling incredulity by the Academy.

This communication is, of course, one scarcely worthy of serious consideration. It is but a simple reminder to medical men of how a scientific principle, once established on firm soil, will be prostituted sooner or later by some members of that school of medicine which might be facetiously

dubbed the "idealistic" or "impressionistic" school. The very idea of making from the rational principle of the manner of action of toxins and antitoxins of disease an analogous case of the manner of action of the "toxins" (?) and tolerance of alcohol is really laughable. And, to cap the climax of this absurdity, these observers bring forth a magical anti-alcoholic serum which, while depriving the bibulous of their absinthe *frappé* and rum punch, still allows them the privilege and pleasure of draining the wine-cup with never a suspicion of a feeling of nausea or dislike for the sparkling wine contained therein. Verily, our romancing French brethren have missed their calling. What splendid success would they have attained had they but followed the footsteps of Cervantes or Æsop!

### THE PASSING OF THE HAT-PIN.

An assemblyman in New York has lately introduced a bill looking toward the punishment of women who use hat-pins exceeding three inches in length. In other words, he wishes to make a law forbidding manufacturers from making hat-pins longer than three inches, and making it an offense for women to use pins of greater length than that. The assemblyman was moved to this action by the fact that many men are yearly killed, maimed, and crippled by assaults made upon them by infuriated women with hat-pins. He, therefore, pleads most eloquently for protection against these "women scorned." This is indeed a most humorous example of what measures move the minds of the legislators who are yearly elected by sane people to fill chairs of responsibility in the legislative halls of our land. Of course, such bills will always be met with smiling, dispassionate nonchalance by the colleagues of men of such mental caliber as this one has exhibited. There is but one extenuating circumstance to the whole thing, and that is, with the remote possibility of the passage of a bill of this kind by sound-minded men, a possible reduction in the number of abortions committed by women who use hat-pins for such purposes might take place. But then, what's the use? Necessity is the mother of invention, and just as surely as the time came when hat-pins of broadsword length would be "called in," so surely would another weapon of abortion come into vogue, and perchance the number of deeds of that kind committed yearly would be trebled, so peculiar is human nature.

### "LES ENFANTS DU BON DIEU."

The responsibility or irresponsibility of the imbecile for crimes which he commits is well discussed by Martin W. Barr in *The Alienist and Neurologist* for January, 1900. This author takes up the case of one Samuel Henderson, aged fifteen years, who on January 14, 1898, killed Percy Lockin, aged five years. The deed was committed one afternoon in a wood near Philadelphia. The murderer stabbed his young victim with a potato-knife, and then attempted to sink the body in the river. The body was afterwards found, and a confession was obtained from young Henderson of his guilt. Barr, an expert for the defense, made a careful study of the boy's case, and upon good grounds made a diagnosis of imbecility. The jury returned a verdict of murder in the second degree, based on irresponsibility. The judge deferred sentence, but finally, after consideration,



sent the boy to the penitentiary for twenty years, as the only means of protection alike to society and for the poor unfortunate.

The outcome of this case is very strange, and but illustrates the peculiar *pot-pourri* which is occasionally compounded by a court of what is commonly known as justice. It is plain to us all that in this case judge and jury alike were quite convinced of the irresponsibility of this boy for the murder. For the reason that the boy showed some traits of reason, for instance, a good memory, an aptitude for remembering faces, etc., these jurors could not understand that the prisoner was absolutely irresponsible, for did he not have a ray or two of reason left, else how could he remember anything? As Barr truly says, it seem well-nigh hopeless for the alienist to make the general public understand that an imbecile, for instance, may be vastly 'more clever than a normal child along certain lines, that he may have a phenomenal though not residual memory, that he may develop capacity for music, drawing or painting to an unusual degree, and yet be absolutely lacking in ability for the simplest primary school work. In other words, the lay mind and many of the minds of pseudo-medical experts, for that matter, absolutely cannot compass what daily clinical experience teaches the observant alienist—that it is not the capacity along certain lines which alone will give us grounds for judging of the sanity or insanity of a given case: it is a careful study of the whole personality of the individual, and especially is this true when we come to deal with the imbecile. We can only arrive at an intelligent idea of the true nature of a mental affection by taking the case and studying it from "start to finish;" it is the *tout ensemble* that tells the tale. And so, in this instance, it is truly a matter of regret that a supposedly intelligent judge and jury should consign an imbecile, such as this boy clearly was, to a life in the convict's garb. Not only does it signify an act of injustice to the boy and to his people, from a humanitarian standpoint, but it also signifies a culpable act, a menace to the future safety of society; for certainly when such a man is turned adrift at the end of his twenty years' confinement in prison, he will be a veritable fire-brand to the light superstructure of society, so that it will only be a question of a few hours of freedom before he will again be hounded to death for another crime for which he is assuredly irresponsible. As Barr says: "Would that some philanthropist, bound by ties of love and kinship to one of these unfortunates, would build a place of refuge for these unfortunates, these, whom the French have so touchingly named '*Les Enfants du bon Dieu.*'"

### THE SERUM-THERAPY OF BUBONIC PLAGUE.

The very name of the plague has from time immemorial struck terror to the hearts of laymen and medical men alike: the laymen knew what a terrible disease it was from hearsay and from desultory reading, while the medical men knew from sad experience that their ordinary therapeutic measures availed but little in the treatment of this dread disease. With the discovery of the specific micro-organism of the plague, by Kitasato and Yersin, new light was shed on the etiology of this disease, and by that very knowledge, by the institution of quarantine regulations and restrictions, the spread of the disease was, in some instances, effectually stopped. Further investigation and research with the micro-organism, the *bacillus*

*pestis*, led to the discovery by Hafkine that relative temporary immunity could be conferred on individuals, before being exposed to the plague, by the injection of glycerin agar cultures of the micro-organism which had been subjected to a degree of heat great enough to kill the micro-organism, but yet not great enough to destroy the toxin of the bacillus *pestis* contained in such a culture. Later, Yersin, a French investigator, obtained a curative and prophylactic serum by using the blood serum of horses which had been immunized against the plague by injections of increasing doses of the plague toxin. The Yersin antipest serum now is admitted by all who know of its usage and manufacture to be a positive cure for the disease. The objection to the Hafkine prophylactic is this: If injected into an individual who has been exposed to the plague, it will not only not protect that individual, but will, in most cases, lead to a fatal outcome. The reason for this is quite manifest: the Hafkine prophylactic is a toxin of the bacillus *pestis*, and protects the individual into whom it is injected—providing, of course, he has not been exposed to the disease—by causing the formation in that individual's blood of a natural antitoxin. It increases his resistance, in other words, by the reaction which is set up in his blood. If, however, the individual has been exposed to the disease before the injection of the Hafkine prophylactic, he has within his system a combination of the toxin which is generated by the plague bacillus, introduced at the time of his exposure, plus the toxin represented in the prophylactic injection. The consequence is that he dies through the agency of a double dose of toxin. The solution, then, of the problem of the utility of prophylactic and curative treatment of this disease is this: Use the Yersin antipest serum in all cases which have the disease, and also in those cases which have been exposed to the disease; and use the Hafkine prophylactic in cases where there is absolutely no history of exposure to the disease—for instance, at ports where the disease has not yet appeared, but where there is danger of its appearance through the medium of commerce.

#### MEDICAL PALEOGRAPHY.

Dr. Geo. M. Gould, the erudite editor of the *Philadelphia Medical Journal*, has written a very instructive article in the *Philadelphia Monthly Medical Journal* for December, 1899, on the subject of medical paleography. It is a subject with which very few physicians are familiar, strange to say. While the signs for drachms, ounces, scruples, etc., are written every day—probably a million times daily in this country, as Gould says—not one of the many cultured and educated gentlemen who write these signs are familiar with their history. Gould takes up the subject of medical paleography by showing the general evolution of punctuation and general paleography. Most of the signs of punctuation and of paleography came into use in early times through two causes: first, through the expensiveness of material upon which medieval writing was done, resulting in small writing, narrow spaces, and many contractions; second, the factor of human laziness, through which many signs and abbreviations came into use. Gould gives a general history of the marks of punctuation, showing how each one was evolved from some contraction in writing, until finally they were taken to separate the different parts of the sentence. The different pre-



scription signs originated in this way: The first stroke of the sign  $\text{₡}$  is the staightened-out *u* of *uncia*, and the remainder of the figure is simply our old, now well-understood, slurred, cursive semicolon. In the sign for drachm the *d* has entirely disappeared and the sign of the contraction has become the sign of the whole word, or, as Gould aptly says, "the Cheshire cat has vanished, leaving only its grin." The sign *gr.*, used for grain, has not suffered; but in that for scruple,  $\text{℥}$ , the long *S* is crossed by the cursive *r*, and the whole conventionalized beyond the recognition of those indifferent to evolution. The sign for one-half, *ss.*, is the contraction of *semisiss*, composed of the long and short *s*. This article is really a valuable addition to the current medical literature, for it delves into a subject which is but little thought of by most of us. It is a gentle reminder that there are many parts of our science which are usually neglected by the medical student, and that are as germane to the subject of medicine as anything which commonly occupies the time and thought of the type called up-to-date doctors.

#### COLORED LIGHT AS A THERAPEUTIC AGENT.

Years ago Prof. Widmark attempted to treat disease by colored light. He was the suggestor and advocate of healing small-pox by red light, and for this innovation he was satirically called the doctor of the "blue bottle" treatment. Prof. Crookes evolved the Crookes tubes and the start of the X-ray process, but this rested unfledged until Roentgen developed it into practical fact. Prof. Frensen, of Denmark, then applied the theory of Widmark with the discoveries of Crookes and Roentgen, and evolved the photo-therapeutic process now promising so much in the treatment of hitherto incurable diseases. Prof. Frensen has discovered that certain kinds of light will kill bacteria or microbes. He obtains this light either direct from the sun or by employing enormously powerful electric lights.

Prof. Frensen by means of special contrivance uses the sunlight for this purpose; to obtain sufficient light artificially, a 22,000 candle-power lamp is used. The light is deflected into a three-foot telescope arrangement to intensify and concentrate it, exactly upon the same principle of the burning glass. He prevents the scorching and burning of the skin by robbing the heat rays of their heat and leaving only the light rays to pass through this telescopic tube. This is done by using quartz lenses, which intercept heat rays; the light rays are then cooled still more by passing through clear, cold water. The therapeutic effect of Frensen's method depends, of course, upon the peculiar qualities of light. The seven colors of the spectrum are: violet, indigo, blue, green, yellow, orange, and red, and formulated for the purpose of memory in the word "vibgyor," which are the initial letters of these seven colors. It has been demonstrated that each one of these seven colors possess certain definite functions. It has been successfully demonstrated that blue, violet, or ultra-violet light will kill bacteria or microbes; these same colors have the power of producing inflammation of the human skin, and also possess cutaneous penetrative power. Frensen has shown that red, yellow, and green lights have no marked germicidal power, microbes flourishing in their rays, but blue, violet, and ultra-violet have marked germicidal power.

The results thus far accomplished by Frensen in the cure of lupus opens a wide range of speculation. It remains to be seen how deeply the

blue and violet rays of light may penetrate. The curing of surface cancer is wonderful enough in itself; but in Frensen's photo-therapeutic method there is indeed much more promise, since, when his process is analyzed, every element of sound reason and common sense is met. Its range is very broad, and the limit of its power, while unknown, still suggests infinite possibilities. Taken upon a basis of common-sense judgment, we believe that Frensen has opened up a therapeutic element of rare power and virtue. Under the treatment of Dr. George G. Hopkins, of Brooklyn, with the use of these tubes, he, like Frensen, can show cure in a number of cases of lupus vulgaris. The eradication of surface cancer under photo-therapy is absolutely harmless. As yet, only surface cancer can be treated, since it is an unknown quantity as to the absolute penetrative power of these focused rays of light.

### SUGGESTION, HEREDITY AND ELECTRICITY.

Suggestion is the medium which starts life to interpret the material from the immaterial. It is what the brain must have to bring it in action. It is the life's prod and spur to action, and comes to man through every avenue of nerve formation and connection. The maker of thought, it introduces to brain and nerve a cause for action. Action, that determining factor of life, is the agency which stamps animate from inanimate life. Suggestion proposes; it sets before or forth all things to mind; it offers to mind all things for consideration, discussion, acceptance, rejection or adoption; it causes declaration or intention. The medium of introduction, it carries all that is contained in proposal, insinuation, temptation, seduction or incitement; the entry of material fact or circumstance, the basis or beginning of thought, information, advice, plan, and fancy. It is as broad as life and construction; its limit is not known, its power undetermined; the world would perish without suggestion and be more silent than the poles of earth.

The heredity of suggestion has rendered possible the celerity of mental action so plainly seen and potently manifest in the mind of the well-endowed and cultured man. The wonderful lightning-like process so frequently seen in the mental action of man represents many ages of past heredity; it is not the growth of an instant, but of untold ages. It is heredity which makes man the power that he is; take from man his heredity, and not even an impressible element could or would abide. All the good or evil in man arises from his hereditary suggestions; every cell within his body carries with it the entirety of a past responsive to the stimulus of the present and future. Hereditary mental impressions or suggestions are the mental powers which guide, influence and control, for weal or woe, the entire mentality of man. No man whom God has put upon earth has ever shown the full power and capacity of his brain; his heredity has confined it into narrow limits of function. The greatest of all great enigmas in life is the confinement and hampering of mental action. Man's greatest virtues and his greatest evils come from heredity. There are periods in the lives of the weakest and humblest men, periods even started by injury and disease, which indicate the brain is the zenith of construction and is endowed with god-like and marvelous function. Heredity hedges this brain into contracted and ordinary function; the possibilities of mental



action are measureless, its limit unknown, its possible power grander and more potent than any force in nature. The heredity of thought and suggestion is the impediment and power which controls and prevents the cure of many diseases with which man is afflicted. That mentality has boundless capacity over material elements has been shown constantly; life has never engendered a condition which mentality has not power to correct. The great failures in medicine all arise from man's incompetence to deal successfully with heredity. The physician's failure to cure cancer, hydrophobia, and other troubles arises mainly from his inability to properly interpret and comprehend the full power and scope of heredity. No material power or agent can equal in potency for good or evil the power of hereditary influences. Nor is there a power on earth equal to the power of mentality. The dire capacity of heredity is manifest in the functional life of all created beings. The power of disease to end life is a feeble power in comparison to hereditary suggestion and thought. We live and die as our minds will through heredity; it is from within to without that we are born; it is the same that we die; our heredity makes us and our heredity ends us. There is not a problem in all nature but that mind will in time solve; the seemingly insurmountable barriers confining man now, will in the future be in the realm of benefit and solution. All therapeutic means used by man have their capacity for good in their power to successfully combat hereditary suggestion and thought. That medical agency possessing the best suggestive elements is the one which man is the most successful with. The most unequivocal successes seem now to come from electricity. Certain it is that no therapeutic means yet suggested by man has within it the boundless scope and possibilities of electricity. As a therapeutic measure it appears to be filled with the very best elements of wondrous and constantly broadening powers of suggestion. It, above all therapeutic measures, appears to be one best adapted to assail hereditary suggestion. Man is scarcely upon the threshold of its possibilities; its appeals to reason and to imagination, its undoubted capacity in power, its immediate effects, the by-play and scope of its action, appeal to the strongest and deepest elements of mentality. The future indicates that as a therapeutic measure it is one destined to produce the most powerful, efficient, and lasting effects. No therapeutic measure ever devised has even a moiety in the scope of suggestion as has electricity, possessing as it does a constantly expanding field of use; and each new discovery opens up a realm of hitherto undreamed and unimagined possibilities. The wildest flights of man's imagination has not even touched its suggestive facts. The young medical man of to-day ought to be filled with gratitude that he has been permitted to live in this progressive period; and should he interpret aright the meaning of the present, he should and must be filled with ardor and devotion to this marvelous and expanding therapeutic agent. The medical man of the future, to succeed, will be compelled to have knowledge; he cannot depend upon formulated routine, but positive knowledge and labor is demanded. Listen to the casual utterances of men like Tesla, who detail in their stories of electricity probabilities so astounding as to put to flight all doubts as to the possibilities of electricity. To the laboring medical man no field in all medicine offers the grand reward for assiduity and labor which electricity does.

# ORIGINAL ARTICLES.

## LETHARGY AND TRANCE.

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THE report in the *Interstate Medical Journal*, of St. Louis, for January, 1900, of a recent discussion on "Premature Burial," initiated by Dr. Garrigues in the New York Academy of Medicine, affords fresh proof of the practical importance attaching to the consideration of the circumstances by which death may be counterfeited. Often as this subject has been brought into temporary prominence by the occurrence of untoward events, such as referred to by Dr. Garrigues, by which the most terrible of misadventures may be occasioned, its public interest in this, as on so many other similar previous instances, is apparently short-lived, being soon displaced by newer matters, and the subject of the preceding nine days' wonder once more sinks back into the limbo of oblivion. Nevertheless, this question is one eminently deserving of greater and more permanent attention than has ever yet been accorded to it; and hence the present appears to me a suitable opportunity of again reviewing a few of the many important points connected with death's counterfeit—lethargy and trance—which I have elsewhere more fully discussed in articles, of some of which I may, perhaps, be permitted to here avail myself.

The protracted suspension of physical power and mental activity by trance—or, in other words, by a morbid state of dormant vitality, in some instances hardly distinguishable from death—has long been a favorite topic for contention between rival metaphysicians; nor is the popular less than the scientific interest of this question, as evinced by the countless fictions of which it has furnished the theme. Thus, from the history of Epimenides, the Cretan, narrated by Pliny (lib. vii., c. 52), down to that of the familiar friend of our youth, Rip Van Winkle, the most charming of "those airy nothings" to which the pen of Washington Irving has given "a local habitation and a name," every age has its favorite legend of this kind.

The possibility of premature burial in cases of trance, and the fallaciousness of all tests, save one, between actual and apparent death in such cases, has always made this subject delectable to those who would "sup full of horrors." And, although the majority of reported instances in which persons in a state of trance have been consigned to a living tomb have, probably, even less *vraisemblance* than the tale which Edgar A. Poe founded on this idea, there can be no doubt whatever of the occurrence of that fearful calamity in many well-authenticated cases. The following observations, first on ordinary lethargy, and, secondly, on that more profound degree of stupor known as "death-trance," may therefore not be devoid of some interest.

A short reference to several instances of lethargy that have come



within the writer's experience will, perhaps, best serve to illustrate the general course of these somewhat rare cases. The first is an instance of so-called hysteric trance. A young lady, Miss W., apparently in perfect health, went into her room after luncheon to make some change of dress; a few minutes afterward she was found lying on her bed in a profound sleep, from which she could not be awakened. When seen twenty-four hours later, she was still sleeping tranquilly, the decubitus being dorsal, respiration scarcely perceptible, pulse 70 and extremely small; her face was pallid, lips motionless, and the extremities very cold. At this moment so death-like was her aspect that a casual observer might have doubted the possibility of the vital spark still lingering in that apparently inanimate frame, on which no external stimulus seemed to produce any sensorial impression with the exception that the pupils were normal and responded to light. Sinapisms were applied over the heart and to the legs, where they were left on until vesication was occasioned without causing any evidence of pain. Faradization was also resorted to, without the least effect. In this state she remained from the evening of the 31st of December until the afternoon of the 3d of January, when the pulse became completely imperceptible, the surface of the body icy cold, the respiratory movements apparently ceased, and her condition was, to all outward appearance now, undistinguishable from death. Under the influence of repeated hypodermic injections of sulphuric ether and other remedies, however, she rallied somewhat, and her pulse and temperature again improved. But she still slept on until the morning of the 9th of January, when she suddenly woke up, and, to the great astonishment of those about her, called for her clothes, which had been removed from their ordinary place, and wanted to come down to breakfast, not having the least consciousness of what had occurred. Her recovery was rapid and complete.

The next case of lethargy was that of a boy, who, after an attack of fever, fell into a state of complete lethargic coma, in which he lay insensible between life and death for forty-seven days. In this case, as in the last, the patient ultimately recovered perfectly.

In a third instance of the same kind, the patient, after a lethargic sleep of twenty-seven days, recovered consciousness for a few hours, then relapsed into her former comatose condition, in which she died.

The fourth case of lethargy was like the first; a case of trance, which lasted for seventy hours, during which the flickering vital spark was only preserved from extinction by the involuntary action of the spinal and nervous centers. In this instance the patient finally recovered.

The fifth and last instance of profound lethargy that has come within the writer's observation, occurred in hospital, in the case of a young woman under the care of one of his colleagues, and despite all that medical skill could suggest, or unremitting attention could do, it was found impossible to arouse the patient from the apparently hysterical lethargic sleep, in which she ultimately sank and died.

We have referred to the foregoing cases occurring in one physician's experience, as disproving the general opinion that lethargy or trance are so rarely met with, as to be of little medical importance. Unfortunately, however, these conditions are of far more frequent occurrence

than is generally supposed. Moreover, we have had reason to know that death is occasionally so exactly thus counterfeited, that there is good cause for fearing the probability of living interment in some cases of hasty burial.

Trance was a favorite topic with several of the older writers, who have recorded instances of this kind far exceeding in duration any of the recently observed cases of lethargy. In the "Philosophical Transactions" for 1694, the case is related of a man aged twenty-five, who slept for nearly a month. Two years later he fell again into lethargy, and at first ate and drank, though unconsciously, but at length he ceased doing so altogether, and continued to hibernate for seventeen weeks. "It so happened," says the narrator, "the barley was being sown when he fell asleep, and when he awoke it was being reaped." In August he again fell asleep and did not awake until November. Dr. Binns, in his "Anatomy of Sleep," quotes a case recorded in the eighth volume of the "Transactions of the Royal Society of Edinburgh," in which a girl is stated to have slept uninterruptedly from the 1st of July until the 8th of August. Dr. Cooke, in his "Treatise on Nervous Diseases" (vol. i., page 372), records the history of a young lady, who for some time was subject to repeated attacks of lethargy, varying in duration from thirty to sixty hours, without seeming to have suffered from want of food or otherwise. In the early part of the disease various means were employed without any advantage, save that whilst under the influence of mercury, which produced a very severe salivation that lasted more than a month, she was free from the complaint. For a long time these paroxysms recurred, but at last they left her, and shortly afterwards she became deranged.

Another instance is narrated by Dr. Mason Good, in his now too seldom consulted "Study of Medicine" (vol. iv., page 622). The patient was a young lady in her eighteenth year, when first attacked by lethargy, which continued to affect her with irregular intervals of waking for five years. These intervals continued two or three times a week, and seldom exceeded an hour or two. In this state she sighed, ate reluctantly what was offered to her, had occasional ejections, and then relapsed into sleep. Her recovery was sudden, for she seemed to awake as if from a night's rest, by a more perfect termination of the paroxysm, which was not followed by a relapse afterwards.

It would be misplaced here, to attempt any account of the general pathology of lethargy. Comatose affections are not only most complex in their character, but also assume widely different aspects, in accordance with the different physical conditions with which they are associated. Most frequently such cases occur in females, and in a large proportion of instances they occur in patients of a hysterical temperament. Even hysterical catalepsy or trance is by no means devoid of danger, but may end in death, as in two cases narrated by Elliotson.

"Two sisters," he says, "were affected in the same way, one of whom died before I saw her, and I went to see the other. Although she was well supported every hour as she lay apparently a corpse, yet she sank at last. The other was a case of regular hysteria, and I concluded she would do well under ordinary treatment, but all at once she sank, swelling of the hands came on, the pulse became weak, and she died."



Lethargy has been described as an exaggerated sleep, but I do not see how this definition can improve our knowledge of the subject, until we have first agreed as to the normal duration of sleep. In every case the length of sleep required by the individual must be determined by the person's age, temperament and preceding expenditure of cerebro-nervous and physical force, as well as by after-circumstances. Thus, for instance, the infant whose rest is interrupted only by brief intervals of wakefulness for food, sleeps as naturally as the healthy adult, who takes his seven hours' rest, or as the old man who is well satisfied if he has obtained three or four hours of light and broken slumber. These typical conditions of somnolency at different periods of life may, in some exceptional cases, be reversed without apparent immediate ill result. Thus we have known a family, in which infantile insomnia was the rule in four or five successive instances, the infants referred to being, despite all treatment, obstinately sleepless for eighteen out of twenty-four hours until after the period of dentition, without apparent cause or immediate tangible injury. The ordinary light sleep of the old is sometimes, however, replaced by an increasing torpidity of mind and body, until at last "life passes into sleep, and sleep into death."

Nor is age the only factor to be taken into account in considering the natural period of rest, for individual temperament and habit have their share in the problem. Thus we know of one instance where a young officer, otherwise in perfect health, was of so sleepy a disposition that he could not do with less than fourteen hours sleep daily, an indulgence which cost him his commission, as he could never rise in time for parade.

The influence of climate and weather on sleep is unquestionable, the "Sleepy Hollow" of fiction being but a popular explanation of the well-grounded belief in the sedative action of a condensed atmosphere. In common parlance, sudden increase of atmospheric pressure is described as "heavy or drowsy weather," and most people sleep better in low-lying situations, and when at sea, or in its vicinity, than in the more rarefied atmosphere of higher districts. No sleep is healthy from which we cannot be easily aroused; and its duration, as a rule, should correspond in adults with the preceding expenditure of sensorial and volitional nerve force. In the cases of lethargy which have been just described, however, there was no history of any previous undue waste of nervous energy; hence, in such cases we must seek the cause of the prolonged somnolency in some arrested development of sensorial power, rather than in its exhaustion, which is the proximate cause of natural sleep.

The condition of the mind during lethargy must be the same as during sleep, from which the only tangible difference is one of degree or duration. Most of the older writers, and some of the more modern authorities on the subject, namely, Weid, Brougham, McNish, Carpenter, Winslow, and Charcot, appear to incline to Locke's opinion, that "we do not dream always when asleep, for we cannot think at any time sleeping or waking without being sensible of it." On the other hand, however, the opposite opinion, which is supported by as many psychologists, rests on a still better foundation of reason and experience—mental activity seems inseparable from existence. The functions of the cerebral hemispheres are, therefore, probably never completely interrupted, even in the most pro-

found trance, and the mind then continues to operate incessantly, however abnormally or imperfectly, or however unconscious we may subsequently be of its operations during sleep or dreams.

Every one who has had occasion to watch often by the bedside of the sleeping has seen and heard the changing phases of dreams, expressed in motions and words, of the cause of which the sleeper, on awakening, has no recollection whatever. For many years the writer has been subject, from the exigencies of his profession, to very frequent interruptions of rest, and can hardly call to mind a single occasion in which he was thus suddenly aroused from dreamless sleep. During sound sleep, and still more so in lethargy, all impressions from the external world may possibly be entirely shut out from the mind. More frequently, however, these impressions are conveyed to the sensorium in so faint or imperfect a manner as to produce effects different from those they would have occasioned in the waking mind. Moreover, such impressions may originate within the cerebrum, as well as be conveyed to it from without. We have abundant proofs of the possibility of manifestations of active intellectual operations during sleep. Many years ago the writer entered fully into this subject, and proved by numerous illustrations that, although the faculties most commonly exercised in our dreams are memory and imagination unbridled by judgment, nevertheless, in some exceptional instances, the activity of all the mental powers may continue unsuspended by sleep. Amongst cases of this kind, one of the best known is that of Coleridge's composition of "Kubla Khan" during sleep, Lord Jeffrey's sleeping judgments, and Condorcet's dreaming solution of a mathematical calculation. Similar instances are recorded in the works of Sir Thomas Brown Brindley, the engineer, Dr. Gregory, and Cabarios.

A much earlier case of the same kind is related in the life of an ancient Anglo-Saxon saint, St. Cædmon of Whitby, who, on first entering monastic life, was mortified at being unable to play the harp and sing with the other monks. One night a stranger appeared to him in his sleep, says the old legend, and commanded him to sing a hymn in honor of the creation. This he at once did, the verses flowing spontaneously, and, being remembered on waking, were by him, although before untaught, set to music. This poem, which was thus composed, is remarkable on other grounds, being strongly suggestive of the greater epic which the genius of Milton afterwards produced on the same theme. The well-known phenomena of nightmare, or incubus, are sufficient to show that volition is not necessarily suspended during profound sleep. Dryden has well rendered Virgil's picture of this condition:

"And when heavy sleep has closed the sight,  
The sickly fancy labors in the night.  
We seem to run, and destitute of force,  
Our swelling limbs forsake the course.  
In vain we heave for breath, in vain we cry;  
The nerves unbraced, their usual strength deny,  
And on the tongue the faltering accents die."

—*Aneid*, b. xii., p. 908.



In such dreams it is evident that it is not volition, but the power of co-ordinating the movements which are willed—that is, suspended—by sleep. The cerebellum under these circumstances being probably quiescent, whilst the cerebrum is active, and therefore no voluntary action can respond to the exercise of the will. We need only refer to somnambulism to show that during sleep as profound as lethargy the cerebral volitional impulse may be responded to by motional activity. The condition of a patient recovering from profound lethargy, before consciousness has fully returned and when, apparently, the trance has not been interrupted, approaches closely to somnambulism. The sleeper manifests by word or gesture some recognition on being shaken or loudly spoken to, any such response, however imperfect, proving not only that external impressions have been duly transmitted through the *portia mollis* of the seventh nerve, but also that volition has responded to the call made upon it. If, therefore, during trance the mind be in the same state (as seems probable) as in sleep, then in that protracted torpor “what dreams may come,” in the long transition between this state and the restoration of cerebral sensorial consciousness, and what agony may be endured in the effort to regain ordinary volitional power, “must give us pause.”

Death-trance, or that profound degree of lethargy which closely counterfeits death, deserves greater attention than is generally paid to it as a pathological condition, as well as a possible cause of premature interment. For unless we reject every statement, however well authenticated, of those who have witnessed such cases, merely because their experience does not tally with our own preconceived opinions and wishes, neither the frequent occurrence of death-trance nor the fearful results of its non-recognition can be questioned. It could readily be shown, if it were needed, by reference to the death-like torpor of the hibernating animals, or to the shorter period of torpor from which men suffer from long exposure to intense cold, that under various circumstances respiration, cardiac action, sensibility, and volition may be dormant for an almost indefinite time before the extinction of the vital spark. “Death-trance,” says the late Dr. R. R. Madden, “is a form of suspended animation. There are several others: after incomplete narcotic poisoning, after suffocation in any of its various ways, after exposure to cold; in infants newly born, a state is occasionally met with of which, although many of the appearances may differ, the common feature is an apparent suspension of the vital action. But all of these so-called instances agree in another important respect which separates them as a class from death-trance. They represent each and all a period of conflict between the effects of certain deleterious impressions and the vital principle, the latter struggling against the weight and force of the former. Such is not the case in death-trance,” \* \* \* a full account of which may be found in a work published some forty years ago.<sup>1</sup>

This condition has been said to differ from the other species of lethargic sleep referred to, as being a positive status, a period of repose. “The basis of death-trance,” says Dr. Mayo, “is the suspension of the action of the heart and of breathing and of voluntary motion generally, likewise of feeling and intelligence. With these phenomena are joined loss of external warmth, so that the usual evidence of life is gone. But there has

<sup>1</sup> “Phantasmata, or Illusions and Fanatisms,” by R. R. Madden, F. R. C. S., Eng.; M. R. I. A., vol. i., p. 100.

occurred every shade of this condition that can be mentioned, between an occasional slight degree of suspension of one or other of the vital actions and their entire deprivation."

Death-trance may occur as a primary affection suddenly or gradually. The diseases—the course of which it is liable, as it were, to bifurcate or to graft itself on—are first and principally all diseases of the nervous system. But in any form of disease, when the body is brought to a certain state of debility, death-trance may supervene. In such cases auscultation will generally enable us to detect some evidence, however feeble, of cardiac action; or the clinical thermometer will reveal the existence of vital heat; or the older test of the clear mirror applied to the lips will prove the continuance of respiration by the film of vapor on its surface. But in some cases even these evidences of vitality may be practically unrecognizable.

Dr. Mason Good relates a case of this kind in which the patient was fortunate enough to have her interment postponed in order to allow a post-mortem examination to be made. On being submitted to the scalpel its first touch brought her to her senses and threw her into a state of violent agitation, the anatomist being almost as much frightened as herself.

Diembraedt mentions the case of a rustic who was supposed to be dead of the plague and was laid out for interment, but by accident three days elapsed before he could be carried to the grave. When in the act of being buried, he showed signs of life, rapidly recovered, and lived for many years. Mathæus Hialdamus and other ancient collectors of medical curiosities are full of cases of this kind, many of them indeed merely related, but some of them possessing every requisite authority for belief and showing the necessity of waiting for signs of putrefaction before the lid of the coffin is screwed down, or rather before the body is removed from the supposed death-bed. In the appendix to the second edition of Dr. Curry's "Observations on Apparent Death," several instances of a similar kind are added, and amongst others the case of William, Earl of Pembroke, who died April 10, 1630. When the body was opened in order to be embalmed he was observed immediately after the incision was made to lift up his hand. Vesalius, the celebrated anatomist, who was physician to the Emperor Charles V., met with a similar circumstance in the case of a Spanish nobleman, whose body he was employed to open in order to discover the disease of which he died. The nobleman's relatives represented Vesalius as a murderer, and it was with difficulty Philip rescued him on condition of a pilgrimage to Jerusalem.

Dr. Curry chronicles several other cases of this sort, and amongst them that of a lady then living in Hertfordshire, whose mother had been brought from death to life after interment by the attempt of a thief to steal a valuable ring from her finger. The individual who was thus rescued from the tomb appears to have been Lady Dryden, who many years subsequently directed by her will that her body should have the throat cut across previous to interment, and to secure this, left fifty pounds to her physician, who actually performed it. Dr. Elliotson refers to the case of a female who was pronounced to be dead. Her pulse could not be felt, and she was put into a coffin. When the coffin-lid was being closed they observed a sweat break out, and thus saw that she was alive. She recovered perfectly, and then stated that she had been unable to give any signs



of life whatever; that she was conscious of all going on around her; that she heard everything, and that when she found the coffin-lid about to be put on the agony was dreadful beyond all description, so that it produced the sweat seen by the attendants. In two cases related by Dr. Braid, of Manchester, "the patients remained in the horrible condition of hearing various remarks made about their death and interment. All this they heard distinctly without having the power of giving any indication that they were alive until some accidental abrupt impression aroused them from their lethargy and rescued them from their perilous situation.' On one of those occasions what most intensely affected the feelings of the entranced subject, as she afterwards communicated to my informant, was hearing a little sister who came into the room where she was laid out for dead exulting in the prospect, in consequence of her death, of getting possession of a necklace."

In another instance the patient remained in a cataleptic condition for fourteen days. During this period, the visible signs of vitality were a slight degree of animal heat, and appearance of moisture, when a mirror was held close to her face. But, although she had no voluntary power to give indication by word or gesture, nevertheless she heard and understood all that was said and proposed to be done, and suffered the most exquisite torture from various tests applied to her.

It appears beyond all doubt that under some circumstances the phenomena of death-trance may be produced by voluntary effort. Perhaps the best authenticated case of this sort is that of Colonel Townsend, which was attested by his medical attendants. "In their presence," say Dr. Mayo, "Colonel Townsend laid himself down on his back, and Dr. Cheyne undertook to observe the pulse, Dr. Beynard laid his hand on his heart, and Mr. Thine had a looking-glass to hold to his mouth. After a few seconds, pulse, breathing and the action of the heart were no longer to be observed, and each of the witnesses satisfied himself of the cessation of these phenomena.

When the death-trance had lasted half an hour, the doctors began to fear that the patient had pushed the experiment too far, and was dead in earnest; they were preparing to leave the house when a slight movement of the body attracted their attention. Then they renewed their routine of observation, when the pulse and sensible motion of the heart gradually returned, likewise breathing and consciousness. The sequel of the tale is strange. Colonel Townsend on recovery sent for his attorney, made his will, and died for good and all six hours afterwards.

The late Dr. Braid was a firm believer in the possibility of the voluntary production of this state. As Dr. Braid's papers were published in the *Medical Times* upwards of thirty years ago, we may here quote one of the remarkable cases of the kind which he adduced. This was communicated to Dr. Braid by Sir C. Wade, some time political agent at the Court of Runfeet Singh at Lahore. "I was present," he says, "when the Fakeer mentioned by Captain Osborne was buried alive for six weeks. Although I arrived a few hours after the interment, I had the testimony of Runfeet Singh and many others to the truth of the Fakeer being so buried before them, and it is my belief there was no collusion in producing the extraordinary facts related. \* \* \* At the appointed time I accompanied Runfeet

Singh, who recognized the seal as the one he had affixed. This was now broken, and the mud wall being dug away, a dark room was exposed, where a wooden box containing the Fakeer was placed upright; on opening it we saw a figure enclosed in a bag of white linen. This was opened, and the arms and legs found shriveled and contracted, the face full, the head reclining on the shoulder like that of a corpse. The body was now examined by a medical gentleman, who could discover no pulsation. But there was a heat about the region of the heart, which no other part of the body presented. The servant commenced bathing him with hot water, gradually relaxing the arms and legs, and then placed a thick, hot wheaten cake on the top of his head. He then pulled out of his nostrils and ears the wax and cotton with which they were stopped, and after great exertion opened his mouth by inserting the point of a knife between his teeth, and while holding his jaws open with his left hand, drew the tongue forward with his right, from the curved position upwards in which it had originally been, so as to close the gullet. He rubbed the eyelids with clarified butter until he succeeded in opening them, when the eyes appeared quite motionless and glazed. After the cake had been applied for the third time to the top of his head the body was violently convulsed, the nostrils became inflated, when respiration ensued, and the limbs began to assume a natural fullness, but the pulsation was still faintly perceptible. The servant then put some of the glue on his tongue and made him swallow it; a few minutes afterwards the eyeballs became dilated and recovered their natural color. From the time of the tomb being opened to the recovery of the voice, not more than half an hour could have elapsed, and in another half hour the Fakeer talked with myself and those about him, freely though feebly, like a sick person."

Two other cases of a similar character may also be found in Dr. Braid's papers on the subject, but we much doubt that either of them was sufficient to justify his belief that the individuals referred to really possessed the power they represented themselves to have acquired. There can scarcely be a more interesting chapter in the records of medical literature than the history of well-authenticated cases of profound lethargy or death-trance. Most of the reported cases in which persons in a state of trance are stated to have been consigned to the horrors of a living burial may possibly be apocryphal. Still, on the other hand, there are unquestionably too many well-substantiated instances of the actual occurrence of this calamity, the horrors of which no effort of imagination can exaggerate, and for the prevention of which no pains can be excessive and no precaution superfluous.

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"**The Physician and Surgeon,**" February, 1900 (Detroit), contains a very sensible article on the "Treatment of Suspected Specific Primary Lesions," by Wm. F. Breakley. The doctor lays especial stress upon the waiting method in order to correctly diagnose a syphilitic infection. No attempt should be made to resort to active general anti-syphilitic treatment until after the appearance of the skin manifestations. Moreover, meddling with the sore should be avoided. The primary sore is usually a benign one and requires no special treatment aside from that usually followed in the treatment of such a lesion.



## THE ETIOLOGY OF ACUTE TONSILITIS.

BY WILLIAM J. CLASS, M. D., of Chicago.

IT IS my intention, in writing this article, to make an attempt at classifying the different anginas according to their bacterial causes as nearly as this can be done, with our present knowledge; and if I contribute a tittle toward clearing the present muddle in regard to the etiology of tonsilitis, my effort will not have been entirely in vain.

There is no room for doubting that the vast majority of cases of acute tonsilitis are of bacterial origin; and it can be stated with equal certainty that a variety of germs are concerned in its etiology. Without entering into elaborate quotations from the various articles which have been written upon this subject within the past twenty years, I will state in a general way the results of the investigations which have been made in this direction; and they are strangely contradictory. In looking over the literature upon this subject during the period mentioned, we find that the majority of investigators arrive at the following conclusions, viz.: *Staphylococcus pyogenes aureus* and *albus* each give rise to about thirty per cent. of the cases, while the remaining forty per cent. are usually put down to the credit of the *streptococcus*.

Of late years the *pneumococcus* also looms up in a few of the articles as causing a certain percentage of the cases. In a great many of these articles we find that the investigators found their primary throat cultures to be almost a pure growth of *staphylococcus pyogenes* or *streptococcus*. Some authors hold the opinion that tonsilitis is an entity as far as etiology is concerned, and that it is caused by some germ not as yet identified; this opinion is generally based upon the fact that the disease occasionally presents an epidemic character, as well as from the fact certain sequelæ, such as rheumatism and acute endocarditis, follow in its wake. Other observers, with more or less reason for doing so, claim that the connection between tonsilitis and rheumatism does not exist. Again, other observers set up the claim that the *bacillus diphtheriæ* is present in every or nearly every throat, normal or otherwise. Laboratory workers have isolated the different germs from a given throat culture, and we are surprised at the variety of germs present: thus, Miller isolated twenty-two different species of bacteria from the normal mouth, while Rosenthal found twenty-eight—the pus cocci were said to be constantly present; at the same time Sanarelli has shown that, experimentally, saliva destroys the vitality of these organisms. It is not within my province to criticise these various findings, but will confine myself toward stating what my own results have been. I cannot, however, refrain from making a few remarks respecting the alleged constant presence of *diphtheria bacilli* in the naso-pharynx, because it is a question of the gravest importance. If the *Klebs-Loeffler bacillus* is really a normal inhabitant of these parts, it would be obviously useless to take cultures in order to ascertain whether a given case is one of true diphtheria. It would also furnish a strong argument (and has, in fact, shown itself to be such, as can be seen from recent publications) for those who scoff at bacteriology; and what is of still greater importance, it would make the

antitoxin treatment of diphtheria almost an impossibility, because if we have not the means whereby we can make a positive diagnosis, how should we know in what cases to administer this remedy? Verily, the statement that diphtheria bacilli are normally present in the throat is one that fills the soul of the skeptic with ghoulisn glee! I have no hesitancy in stating, however, that this delight will be a short-lived one, and that careful conscientious research work will show the errors which have given rise to the statement under consideration. My own experience with the bacteriology of acute inflammatory conditions of the tonsils is derived from the examination of approximately two thousand cultures, and covers a period of about three years. During the early part of my work there was a tendency on my part to consider every organism that showed cocci in a chain arrangement as a streptococcus pyogenes, and small cocci in bunches as staphylococcus pyogenes; likewise, bacilli arranged parallel and showing transverse striations generally passed for Klebs-Loeffler bacilli. I believe the majority of bacteriologists pass through this period. Frequent isolation of the germs in the throat cultures, however, supplemented by animal experiments, showed the matter in a different light.

From my personal experience I would classify the acute anginas as follows:

*First.*—Those caused by the *pneumococcus*; the largest and most important group.

*Second.*—Those caused by the *diphtheria bacillus*.

*Third.*—Those caused by the *streptococcus pyogenes*.

*Fourth.*—Those caused by the *diplococcus scarlatinae*.

*Fifth.*—Those caused by the *influenza bacillus*.

*Sixth.*—Those caused by the *staphylococcus pyogenes*.

*Seventh.*—Mixed infections, two or more of the above germs being present in a given case.

I do not wish to convey the impression that the above germs are the only ones capable of giving rise to an acute angina, or even that one of them is invariably present, as there are undoubtedly germs not as yet identified which probably do so; as, for instance, in measles and in variola the angina frequently met with is probably due to the specific contagion. Again, a germ resembling the micrococcus zymogenes was sometimes found in the throat cultures, which suggests a possible solution regarding the connection between the angina and the subsequent endocarditis following some of the cases.

I. PNEUMOCOCCUS ANGINA.—Although considerable has been written on this subject, Prof. W. S. Christopher, of Chicago, in an address before the Chicago Pediatric Society, December, 1898, first called attention to the results of an investigation made jointly with the present writer to determine the pneumococcus infections of childhood. The results of this investigation, which will be published *in toto* at a later period, were rather astonishing, inasmuch as it could be clearly demonstrated that a very large percentage of the acute febrile disorders of childhood, whose cause had formerly been undetermined or which were set down as ephemeral fevers, gastric fever, etc., were nothing more nor less than an infection with the pneumococcus by way of the tonsils. Several hundred cases were studied clinically and bacteriologically. As pointed out by Christopher,



the characteristic lesion in this form of angina consists in an area of redness, often unaccompanied by any appreciable thickening of the mucosa, extending along the free edge of the soft palate, forming a well-defined border of from one-eighth to one-fourth inch in width, involving also the exposed surface of the anterior pillars of the fauces. At times the redness is found only on the anterior faucial pillars, and extends upwardly and inwardly along the free border of the soft palate toward the median line. When the areas of redness from the two sides meet in the median line, the whole surface of the uvula is also involved. The above picture is that presented in a typical pneumococcus angina, but there are numerous sub-varieties; thus, there may be the formation of a grayish or yellowish-gray membrane. In other cases, again, there is such an intense congestion of the mucosa that a swab even lightly applied causes bleeding. The full report on this subject will, as stated previously, be published shortly; suffice it for the present to state that there is good reason to consider the pneumococcus as the causative factor of a large percentage of the acute fevers of childhood, and that the angina caused by this organism has been generally overlooked, especially in very young children.

II. DIPHTHERITIC ANGINA.—The anginas caused by the diphtheria bacillus vary considerably in their clinical aspect, and do not by any means always present the orthodox tough, gray membrane which leaves a bleeding surface upon removal that gave the affection its name. As a general rule, however, where the infection is caused by the virulent diphtheria bacillus, there being little admixture of other germs, we find the membrane mentioned above. Membrane is, however, not a necessary adjunct of a diphtheritic inflammation, from a bacteriological standpoint. I have repeatedly seen cases where there was a moderate rise in temperature with a reddened throat and rather abundant secretion, which gave almost a pure culture of Klebs-Loeffler bacilli, although there was no sign of any membrane. These cases, as a rule, showed considerable depression of the patient; and in one case which I remember there followed a rather troublesome paralysis of the soft palate. Inasmuch as these cases react nicely to the use of antitoxin, the value of a bacteriological examination in all cases of angina is clearly shown.

III. STREPTOCOCCUS ANGINA.—To judge from my own observations, the number of cases of angina due to the streptococcus pyogenes has been greatly overestimated. It is true that almost every throat culture will show cocci arranged in chains, but it will be found, except in a few of the cases, that it is impossible to isolate the organism and to obtain a pure culture of streptococci. This is due to the fact that almost all forms of cocci occasionally show a chain arrangement; the pneumococcus quite frequently does so, and short chains of three and four elements are met with in almost every specimen of pure staphylococcus pyogenes. There are also often seen long chains of a large coccus which is non-pathogenic and can, therefore, hardly be considered as a factor in the etiology of tonsillitis. There are, however, cases, although fortunately they are of comparatively rare occurrence, of which the virulent streptococcus pyogenes is the etiological agent. In undoubted cases of streptococcus angina the temperature elevation is usually great; 105° to 106° F. has been repeatedly observed by me. Especially in children there is profound general dis-

turbance, showing the intensity of the intoxication. The vocal lesion usually consists in an intense deep red discoloration of the mucosa, often accompanied by the formation of minute vesicles. Membrane may or may not be present, and areas of local necrosis, giving rise to unhealthy-looking ulcers, are not infrequently seen. Extension of the process to the larynx usually gives rise to œdema, to which is sometimes added the formation of a pultaceous, glairy pseudo-membrane. The mortality rate in cases of true streptococcus angina is far greater than that in diphtheria, cases of streptococcus croup being almost invariably fatal.

IV. SCARLATINAL ANGINA.—Although the “*diplococcus scarlatinæ*,” the germ discovered by the present writer, is not as yet generally accepted as the causative factor of scarlet fever, the fact that it is a pathogenic micro-organism, and its invariable presence in the throat secretion of patients having this disease, entitle it to recognition in considering the etiology of the various anginas. It is not only invariably present in the angina of scarlet fever, but during an epidemic of this disease it will frequently give rise to an acute tonsilitis without any eruption, although not infrequently these cases are followed by a nephritis, and sometimes by desquamation. It may sound like a bold statement to make; nevertheless, I am fully convinced that a person who has had an attack of acute tonsilitis due to the *diplococcus scarlatinæ* is rendered immune against scarlet fever; or, in other words, that this form of angina is nothing more or less than scarlet fever without the presence of an eruption. The local lesion in scarlatinous sore throat consists in a swelling of the mucous membrane of the soft palate and fauces with enlargement of the tonsils. Membrane formation may or may not be present; when present it is usually white or yellowish-white in color, friable, and can be readily rubbed off. I have, however, seen some cases in which there was the formation of extensive membranes resembling, in every respect, the membrane found in typical cases of diphtheria, although no germ except the *diplococcus scarlatinæ* could be obtained. The contagion from a case of scarlatinous sore throat is capable of giving rise to typical scarlet fever in another person who has been exposed to it.

V. THE ANGINA OF INFLUENZA.—In spite of the large number of cases of so-called influenza reported annually, I have only upon rare occasions been able to find a germ corresponding to the one described by Canon and Pfeiffer, and am, therefore, not in a position to speak authoritatively upon the angina caused by this organism. There can be no doubt, however, that during the prevalence of an epidemic of true influenza a large number of cases of angina are due to this germ. To judge from my personal observations, these cases, as far as the local lesion is concerned, resemble those caused by the pneumococcus.

VI. STAPHYLOCOCCUS ANGINA.—That either the *staphylococcus pyogenes aureus* or *albus*, without the co-operation of other germs, are capable of giving rise to a severe angina is something which I doubt very much, in spite of everything that has been written in favor of this view, and I will briefly state my reasons for doing so.

In the first place, the onset of an acute angina is usually quite sudden, and the rise in temperature abrupt; at the present state of our medical knowledge we can only attribute this to one of two things: either to the rapid



absorption of toxines, or to the entrance of a large number of germs into the general circulation. The pus staphylococci do not form any toxines, and the entrance of large quantities of them into the circulation would mean pyemia. A second reason is that the pus microbes in a given culture taken from a case of acute tonsilitis are not nearly so numerous as the general impression seems to be; the majority of cocci which are usually labeled staphylococci are no pus microbes at all, but belong to a variety of species, for the most part, as yet undetermined. That the staphylococcus pyogenes can, in rare instances, give rise to a slight angina, I do not doubt, and that it forms the abscesses sometimes associated with this affection after other organisms have prepared the soil, I must admit, but, aside from these, deny its character as an etiologic factor.

VII. ANGINA DUE TO MIXED INFECTIONS.—It is seldom that we find a primary culture taken from a case of acute angina which shows even approximately the growth of only a single variety of micro-organism; still in the great majority of cases, one of the previously mentioned germs is present in such large numbers that it must be considered as the chief factor, giving to the others, if any, only a subsidiary part in the etiology of the case. There are, however, cases in which two or more of the known pathogenic germs are present, each in such numbers as to make the term mixed infection permissible. The most important mixed infection is that in which we find both diphtheria bacilli and violent streptococci present. It has been proven experimentally that streptococci have a tendency to render harmless diphtheria bacilli virulent when grown together; clinically the combination is certainly a most baneful one for the patient, as the majority of the cases prove fatal. Streptococci are occasionally also found associated with the diplococcus scarlatinæ in cases of scarlet fever, and have a tendency to aggravate this disease. Pneumococci are sometimes associated with the other germs in mixed anginas, and increase the danger of a possible pneumonia complicating the case.

In closing, I desire to state that I earnestly wish that more attention were paid to the bacteriology of the throat infections by our American investigators than has hitherto been the case, and I sincerely believe that it would lead to a better understanding of the modes by which infection enters the body.

1301 Belmont avenue.

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**Antirabic Inoculations in Berlin.**—Three hundred and eighty-four persons bitten by mad dogs and cats were treated during the past year in Berlin by means of antirabic inoculations. Three hundred and seventy-eight recovered, and three of the six who died were already suffering with rabies when treatment was begun. This certainly speaks well for the value of this form of treatment. The results are very gratifying and commend the utility of the method however empiric the method of preparation of the antirabic serum may be. The results call for more clinical experiments, and in that way the full worth of the method can soon be ascertained.

## A PRELIMINARY REPORT ON THE ETIOLOGY OF SCARLATINA.

BY R. B. H. GRADWOHL, M. D., of St. Louis,

Bacteriologist to the St. Louis City Hospital.

THE inspiration for my efforts to search out the bacterial cause of scarlet fever was a meeting with Dr. Wm. J. Class, of Chicago, who published in June, 1899, the results of his work upon the bacteriology of this disease. Dr. Class stated in this publication that he had isolated a diplococcus from scarlatinal cases, which diplococcus, he thought, was the specific cause of that disease. The history of this disease is somewhat similar to many other diseases, in that many accidental micro-organisms have been described from time to time as true etiologic agents, which time and renewed efforts on the part of assiduous investigators have proven to be but coincident factors in the diseases in question. And so I will not deny the skepticism which I entertained at first in regard to this discovery. I will say that my skepticism has vanished in this regard, and firm confidence in the truth of the discovery has taken its place. Prompted by this investigation by Dr. Class, I determined to carry out similar work upon the cases of scarlet fever that I might see at the St. Louis City Hospital. I regret that up to this time I have investigated but seven cases of this disease in that institution, for the reason that we have had only that number of cases during the winter up to the present writing.

Perhaps something should be said about the hitherto futile attempts to search out the cause of this disease. Ever since the advent of bacteriology into the realm of medicine, it has been commonly taken for granted that scarlatina is essentially a microbic disease; but, strange to say, all endeavors at finding the micro-organism at fault have been barren of results of permanent value. It is true that several investigators have launched forth divers bacteria on the sea of medical literature as *bona fide* bacterial causes of this disease, but each in its turn has been deposed from the seat upon which its respective discoverer has placed it. Crajkowski, Klein, and Edington have each sought in vain for the micro-organism concerned in the production of this disease. Klein laid special emphasis upon the streptococcus as the microbic agent of scarlatina. Others adhered to this belief, and many still assert that the streptococcus is responsible for the outbreaks of this disease. Still another class contend that the streptococcus causes only the local manifestations of the disease, such as the inflammatory conditions in the throat, ear, etc.

I will briefly narrate Dr. Class' experience with this disease. While examining cultures taken from the throats of patients with various forms of angina, he noticed the frequent occurrence of a diplococcus in these cases and, upon further investigation, found that such cultures were obtained from scarlatinal throats. Moved to a spirit of further investigation, he made cultures from the throats, scales, and blood of individuals suffering with scarlatina, and easily separated this diplococcus from these places and, at the same time, reproduced the disease in mice, guinea-pigs, and



swine. Having noticed that Behla, in the *Centralblatt f. Bakteriologie*, reproduced a scarlatiniform rash in swine by inoculating them with the blood of scarlet-fever patients, he utilized these animals for his initial inoculation experiments, and likewise reproduced the same phenomena by injections of his diplococcus.

In the seven cases seen by me I found the diplococcus scarlatinæ of Class in every case and in every stage of the disease, from the first week until the period of convalescence. I did not examine the blood of the first three cases for the diplococcus, but contented myself by finding it in the scales and throat. In the last four cases it was obtained in pure culture from the blood. In the seventh case it was separated from the urine in pure culture. It was not obtained in pure culture from the throats and scales, but was obtained subsequently from these sites in pure culture by plating. I might mention an eighth case in which this micro-organism was demonstrated in the throat. During the course of daily examinations of diphtheria cultures at the Health Department Bacteriologic Laboratory, of this city, I came across a diplococcus in one case which looked very familiar to me. I telephoned the doctor who had sent in this culture, and found that it had been taken from the throat of a case of scarlet fever where the physician in charge thought there might be a mixed infection of both diphtheria and scarlet fever. Further examination with plating, etc., proved that it was really the diplococcus scarlatinæ.

As this is essentially a "new" micro-organism, I have described it fully according to the plan laid down by the American Public Health Association, and will submit it in that form. The morphologic characteristics of this diplococcus are interesting. It is a diplococcus of varying size, changing its form and size under artificial growth conditions, attaining a larger size with frequent transplantations, sometimes becoming so large that it looks like a diplo-bacillus. It can be made to return to its original size by passing it through the body of a susceptible animal, such as a mouse.

### DIPLOCOCCUS SCARLATINÆ.

MORPHOLOGY, ETC.

Source—	<div style="display: flex; flex-direction: column; align-items: center;"> <div>Blood</div> <div>Throat</div> <div>Scales</div> <div>Urine</div> </div>	}	of scarlatinal cases.	Habitat?
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Morphologic examination of agar culture grown 2 days at 18°-20° C.; ditto grown 2 days at 35°-37° C.

Morphologic examination of gelatin culture grown 4 days at 18°-20° C.

Morphologic examination of broth culture grown 2 days at 18°-20° C.; ditto grown 2 days at 35°-37° C.

*Diplococcus.*

Size—variable. Stains—with standard watery dyes easily, uniformly, regularly.

Capsule—none observed. Spores—none observed. Vacuoles—none observed.

Crystals—none observed. Motility—none observed. Pleomorphism—yes.

Growth at 18°-20° C. is less abundant than that at 35°-38° C.

Thermal death point 49° C.; time of exposure, 15 minutes.

Permanence of morphologic characters—no.

Optimum temperature, 36° C.; optimum reaction of media from 1.0 to 1.5 ÷ % to phenolphthalein.

Growth limits, maximum, 39° C.; minimum, 18° C.

BIOLOGY.

GELATIN PLATE.		Reaction of Medium—Neutral	DEEP COLONIES.	SURFACE COLONIES.
Size.	Shape.		Pin-point, round, smooth, regular margin, granular in center, slightly yellowish in color, darker in center.	About 1 m. m. in diameter, dark center, light periphery, round, even margin, granular, yellow white.
Margin.	Texture.			
Color.				
AGAR PLATE.		Reaction—Neutral	Round, about ½ m. m., regular margin, whitish in color, homogeneous.	About 1-2 m. m., round, smooth, even margin, finely granular whitish color, periphery lighter than center.
Size.	Shape.			
Margin.	Texture.			
Color.				
GELATIN TUBE.		Reaction—Neutral	Two inches deep, uniform breadth throughout, slight surface growth; faint growth along puncture.	
Puncture.				
AGAR TUBE		Reaction—Neutral	Over two inches long about same breadth margin or level with center; at room temperature grows in studded colonies; at incubator temperature as one continuous white streak. No change in medium.	
Streak				
Nutrient Broth in Test Tube		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="margin: 0;"><b>BODY OF LIQUID.</b></p> <p style="margin: 0;">Is turbid in eight hours at 37° C.</p> <p style="margin: 0;">Does not clear on standing.</p> <p style="margin: 0;">Slight evidences of mass-formation on shaking.</p> </div> <div style="width: 45%;"> <p style="margin: 0;"><b>SURFACE OF LIQUID.</b></p> <p style="margin: 0;">Pellicle does not form. Slight deposit in 48 hours at 37° C.</p> <p style="margin: 0;">Odor does not develop.</p> <p style="margin: 0;">Reaction at end of 1 day is alkaline; 3 days ditto; 5 days ditto.</p> </div> </div>		
				<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; padding-right: 5px;">Broth and Milk</div> </div>
Milk		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="margin: 0;">No visible change in 5 days at 37° C.</p> <p style="margin: 0;">Does not curdle in 2 days at 36°-38° C.</p> <p style="margin: 0;">Does not curdle in 2 days at 18°-20° C.</p> <p style="margin: 0;">Color is not developed.</p> </div> <div style="width: 45%;"> <p style="margin: 0;">Reaction in 3 days—alkaline.</p> </div> </div>		
Sugar Broth in Fermentation Tubes		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="margin: 0;">No gas-formation with—</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Glucose</div> <div style="margin-right: 10px;">Lactose</div> <div style="margin-right: 10px;">Saccharose</div> </div> </div> <div style="width: 45%;"> <p style="margin: 0;">} Broth.</p> </div> </div>		
<i>In bulb</i> , pellicle does not form; becomes clouded; no color. <i>In connecting tube</i> , growth is marked by clouding. <i>In closed branch</i> , growth does not develop.				
Potato Reaction to Phenolphthalein—0.5% acid		Growth occurs invisible.		
Blood Serum (Solid)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="margin: 0;">Growth like that observed on agar.</p> <p style="margin: 0;">Pigment—none developed.</p> <p style="margin: 0;">Relation to free oxygen—Facultative Anaerobe.</p> </div> <div style="width: 45%;"> <p style="margin: 0;">Medium is not liquified.</p> </div> </div>		

*Pathogenesis.*—The diplococcus scarlatinæ is pathogenic for mice, guinea-pigs, swine; non-pathogenic for dogs, cats, rats, white rats, and rabbits. My first inoculations into animals were confined to dogs and cats, but I failed signally to reproduce any disease manifestations in them or to find the micro-organism in their blood or organs after they were killed by other means. These negative experiments convinced me that these animals are not susceptible to scarlet fever. I arrived at the same conclusion with regard to rabbits, rats, and white rats, quite a number of which were utilized without any success. I finally began to use domestic mice, and easily succeeded in killing them, sometimes within eight hours, by subcutaneous injection of a small quantity of an agar culture rubbed up in a



little sterilized water. The micro-organism was easily recovered from the organs of these mice, after death, and in each instance proved to be more virulent than it had been before its passage through the animal. The organs of these mice did not show much in a pathologic way, from a macroscopic view, but I will give in detail the results of a microscopic examination in a more complete report later on. Another point of interest that I noticed in connection with my work with mice was this: if a healthy mouse be put into a cage in which another mouse which has been inoculated with the *diplococcus scarlatinæ* has been kept, the healthy mouse will sicken and die, and will show the *diplococcus scarlatinæ* in its organs post-mortem. This illustrates the contagiousness of the disease which is produced in mice by the *diplococcus scarlatinæ*. Guinea-pigs inoculated intraperitoneally will die within ten days, and will show gross signs of nephritis, and will yield the *diplococcus scarlatinæ* from their blood. I inoculated two young swine with the *diplococcus scarlatinæ*. The inoculation was made into the vein upon the ear. A rash appeared in the first pig which was inoculated eight days later. This was followed by desquamation and recovery. The animal was killed and a pronounced acute nephritis noted. The *diplococcus scarlatinæ* was recovered from the blood and from the kidneys. The rash did not appear in the second pig until the tenth day after inoculation. Thus I proved clearly that this micro-organism is pathogenic for these animals.

While my work has been necessarily limited for the reason stated in the beginning—that is, the limited number of cases with which I was thrown in contact—still I think the uniformity of the results obtained in these few cases and the interesting points in the inoculation experiments, together with the more extensive work of Class, will lay some claim at least to the right of calling this micro-organism the specific etiologic factor in scarlet fever. The discovery undoubtedly has more authentic data to support it than has any one of the previously reported micro-organisms of this disease. In the light of the results obtained by Class, and in connection with the few observations made by me, I feel no hesitation in applying the name of "*diplococcus scarlatinæ*" to this micro-organism, with the firm belief that that name will cling to it, and that its relationship to the disease scarlatina will be borne out not only in the name, but by further and more extensive clinical and bacteriological observations.

450 Century Building.

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**Bacterio-Therapy of Leg Ulcer.**—Ivan Honl (*Wiener klin. Rundschau*, February 4, 1900) describes a new method of treatment of ulcers of the leg. His manner of procedure is to obtain protein substances from cultures of the *bacillus pyocyaneus* and apply these to the ulcer after it has been soaked in tepid water for a time. Honl has obtained very good results by means of this method. He recommends it on the grounds of simplicity, comfort, and actual efficacy.

## THE USE OF THE FORCEPS.

BY DENSLOW LEWIS, M. D., of Chicago,

Professor of Gynecology in the Chicago Polyclinic; Attending Surgeon to the Cook County Hospital, Chicago.

THE forceps should be used to deliver a live child that can continue to live, and no other. It should rarely be used on a dead child, for Auvard's cranio-cephaloclast can reduce the bulk of such a child so that it can pass through the parturient canal more easily and with very much less likelihood of injury to the mother.

The Tarnier axis-tractor or Reynolds' axis-traction rods, which convert any ordinary forceps into an axis-tractor, alone apply traction in the proper direction with some approach to scientific accuracy. Of course I will admit that a skilled obstetrician may execute Pajot's maneuver, and with any forceps apply traction to some extent in the right direction. I will also admit that children can be delivered with ordinary forceps, or, after days of suffering on the part of the mother, without forceps of any kind. This admission does not in any way justify such a procedure on the part of any medical man who claims to practice obstetrics in accordance with the spirit of the times.

I have for fifteen years contended that every pregnant woman should be examined at the seventh or eighth month of her pregnancy. The occiput anterior presentation is the only normal presentation, and in case abdominal palpation shows a breech or any other presentation except an occiput anterior, the position of the child should be changed by version, by external manipulation, and Pinard's bandage should be applied. If this were done, forceps delivery would be less frequently indicated.

Unfortunately, in practice, we are often called to obstetric cases where no preliminary examination has been thought of. We find that the woman has been in labor for some time, and no advance has been made. If the head presents, we can sometimes differentiate the fontanelles and recognize the presentation. In many instances the caput succedaneum makes it impossible to distinguish between an anterior and posterior presentation, and if we have had experience and are honest, we might as well admit it. In cases of this kind, we seek to know if there is any flattening; that is, any contraction of the antero-posterior diameter of the pelvis. If the finger cannot touch the promontory of the sacrum when a vaginal examination is made, it is safe to assume that no serious diminution in the caliber of the antero-posterior diameter exists. If a marked contraction is recognized, it is folly to think of forceps delivery. Cæsarean section is indicated, and should be performed at once before the woman is exhausted. The statistics of Ohlshausen and Leopold show about eight per cent. of deaths. To-day every practitioner should be qualified to do a hysterotomy; and if he is not, the woman's chances are better if he attempts it than if he tries to deliver with forceps when such a delivery is impossible.

If there seems to be no flattening of the pelvis, we will put on the Tarnier forceps tentatively, and exert traction gently and gradually. Remember, I am speaking of cases where we really do not know if the occiput is anterior or posterior. I have met with such cases, and I am not ashamed to admit it. When labor has been in progress for hours or for days, and a large caput succedaneum has formed, I defy any man to diag-



nose the presentation. He knows the head presents; he knows he cannot feel the promontory of the sacrum; that is all he knows, and he puts on the proper forceps in a proper way, and exerts traction in a proper direction.

He succeeds or he fails. If he fails, he understands that there is a relative disproportion between the size of the child's head and the diameter of the pelvic brim. Perhaps there is a hydrocephalus or some monstrosity. If delivery is not readily effected, and especially if we are convinced that the child is dead, we must not persist in our efforts; for we know, from our study of mechanics, that a body of a certain circumference cannot pass through an orifice of a lesser circumference. We must not expose the mother to unusual traumatism if the chances are the child is dead. We must know when to stop.

When the head rests on the perineum, I use a short forceps—Jenks', for example—which is held with the right hand, the thumb uppermost. Traction here is applied upwards, and the advance of the head is regulated by the forceps, so that rupture of the perineum may be avoided, and, when thorough dilatation has occurred, the perineum may be slipped over the head between the pains.

Forceps may sometimes be used in breech presentations, especially when the breech is well engaged or impacted. The blades should be applied to the sides of the thighs, and, when the hips are transverse, an attempt at rotation should be made by the hand. I have also applied forceps to the after-coming head with a good result when the usual manual methods of extraction had failed. The child's body, wrapped in a towel, is held up out of the way by the nurse. Traction is made downward until the pelvic floor is reached, and then outwards and upwards.

An important danger of forceps delivery must not be overlooked. I refer to the increased liability of infection. In normal obstetric cases, where one antiseptic douche has been given before labor, and examinations are infrequent and made with an aseptic finger, there is no need of douches after labor. It is to be remembered that even an antiseptic douche may cause extension of infection, and it must be admitted that if the parturient canal is aseptic, it is folly to try to make it more so. In normal cases, an occlusion pad of sterilized gauze and absorbent cotton is the only necessary dressing.

In forceps cases there is always more than the usual traumatism. Very frequently there is a laceration of the pelvic aponeurosis and the fibers of the levator ani muscle. This is not always accompanied by a laceration of the skin surface of the perineum, and for that reason it is often overlooked. In every case where the forceps has been used, it is the part of wisdom to insert vaginal retractors and to inspect carefully the vaginal walls. Posterior lacerations will usually be found, and in my judgment they should be repaired immediately by sutures passed within the vagina. By this procedure, open mouths of blood vessels and lymphatics are closed, and these unusual and additional doors of entrance for pathogenic bacteria cease to be a menace to the well-being of the patient. Moreover, the immediate repair of the pelvic aponeurosis and the torn fibers of the levator ani muscle prevents subsequent retraction of these tissues and all the ills incident to the development of a rectocele and cystocele.

## SEA SICKNESS.

By J. B. BUSDRAGHI, M. D., of Madrid, Spain,  
Of the Universities of Turin (Italy) and Madrid (Spain).

SEA SICKNESS is a generic term applied to a pathologic state which ensues when a sea voyage is taken by some individuals. It is characterized by dizziness, vomiting, and general disorder of the organism. Many terrestrial animals, such as horses, oxen, elephants, monkeys, sheep, dogs, hogs, etc., also suffer from this disease on sea voyages. Many theories have been advanced in explanation of the disease. Dr. Graily Hewitt succeeded in producing symptoms of the disease by letting individuals swing before an oscillating looking-glass. He concluded, from this experiment, that the disease is due to a disorder of the visual apparatus. The truth of this theory, plausible though it may be, is shaken by the observation of clinicians that blind men suffer with the disease as well as those with normal vision, as do *voyageurs* while sleeping.

An individual starting upon a sea voyage, thinking of the probable dangers that threaten him, enters into a state of excitation and exhilaration, so different is the life which he is about to enter from the tranquil and placid existence which he has been leading before this voyage. This state of excitation does not even spare the tried seamen, who all are superstitious to a marked degree, as we may judge from the amulets, etc., which they wear preparatory to taking a sea voyage. Among the various forms of neurasthenia, there is one called agoraphobia, in consequence of which individuals can walk along a street without any ill effects, but, strange to say, they are obliged to shun open squares. The effect produced upon the visual apparatus by the open sea, the excitement of the individual, and the solar reflex or brilliant light, etc., all combine to produce sea sickness. The sense of smell and also the sense of hearing is affected in sea sickness, as it is often noted that individuals suffering with sea sickness complain of the noise made by the engines and screws, and attribute to these noises their complaints. The sense of smell is sometimes a factor in the cause of this disease, and many persons cannot approach the kitchen because of the odors which emanate therefrom. Many cannot remain in the dining-room, and, in some cases, the odor of salt water causes dizziness and vomiting. The same thing may be said of the effects of heat and cold.

Another factor in the production of sea sickness is the disturbance in the natural equilibrium of the body. Thus alternate anemia and hyperemia of the brain is produced in individuals on board ship. This effect of disturbance of the equilibrium of the body is seen in the liver particularly, because it is a large viscus, and it is oscillated by the constant jerking of the ship. The stomach, particularly after a meal, the spleen, the bowels, the bladder, the diaphragm, the heart, etc., all are disturbed by the oscillation of the ship.

Another cause of sea sickness is to be found in the atmospheric conditions which even influence the temperament of people when on shore, making them nervous and excitable at times. The direction of the wind,



the clouding of the sky, are all conditions that play a part in the production of this disease.

We must now say something about the treatment of this disease. Many have tried to solve this problem—*i. e.*, the finding of a sovereign remedy for this disease. Nearly all the remedies that are used in the treatment of this disease are purely given for empirical reasons, without any foundation for a scientifically indicated drug. Many efforts have been made to prevent the occurrence of this disease: for instance, the idea has been utilized of making the interior of the ship as much like the scenes on shore as possible, by painting the walls of the cabin to represent houses, by placing fountains in the center of the room, etc. Another innovation that has been introduced is to have music and dancing on board, so that an agreeable effect is produced upon the ear, etc. In order to take away the undulatory effects produced by the moving vessel, it has been proposed to build the ships of greater length. The royal apartments on the yacht of the queen of England are suspended in three hundred concentric hoops, and the movement of the ship is thereby not noticed by the passengers. As for the use of drugs in this condition, we must treat the cases symptomatically. For those with torpid livers, and for those who are constipated, a purge is indicated. Give the bromides to the hysterical; tonics and iron to anemics and chlorotics; a careful diet to those with gastric disorders. A contrivance devised by the English physician Wollaston is useful on short trips—*i. e.*, an apparatus fitting around the abdomen, and in that way checking the swinging of the abdominal viscera. On long voyages, however, this device does no good, for the intestines accommodate themselves in their confined position, and become as much shaken up as if there were no abdominal supporter worn.

## FOUR CASES OF DIABETES MELLITUS OF APPARENT BACTERIAL ORIGIN, AND THEIR SUCCESSFUL TREATMENT.

BY J. P. SHERIDAN, M. D., of New York City.

**I**N THE latter part of 1898 a writer in the *Medical Record* related his experience with bichloride of mercury in the treatment of diabetes mellitus, and advanced the novel theory of the bacterial origin of this affection.

At the time of publication of the article in question I had some diabetics under treatment. As a moderately rigid antidiabetic diet and the time-honored remedies did not check the glycosuria in my patients, I adopted the newly proffered theory and eagerly prescribed the advocated chemical.

To-day, after a year's trial of germicidal remedies in diabetes, I have become a firm believer in the bacterial origin of diabetes. It is true, the bichloride of mercury did not prove a success in my hands, but this only tends to demonstrate the existence of a peculiar diabetic toxine, which has

to be combated by other means. This toxine, in my opinion, is particularly apt to attack the nervous matter, which in turn gives rise to the well-known disturbance of metabolism in diabetes—namely, preventing the deposition of glycogen in the liver and muscles and causing its discharge by the kidneys in the form of grape sugar. The irritation of the vaso-motor centers, to which may be attributed all the symptoms of diabetes, seems to be caused by this toxine. It is plainly the physician's duty to eliminate the toxic influences, for he thereby relieves the irritation of the nervous centers. However, he must be most careful in the selection of the proper remedy and in the administration of its indicated dose. The failures in diabetic therapy have to be ascribed either to a wrong medicine or its improper administration, or to both. The ideal antidiabetic drug should not only exert distinct germicidal and antiseptic powers, but should be a powerful alterative. At the same time, the system should not become weakened and emaciated by its prolonged administration. On the contrary, the ideal diabetic remedy should afford great tonic properties.

Bichloride of mercury and *auri et sodii chloridum*, which latter is so much lauded of late by a Chicago physician, possess some of these desiderata, but neither proved of any success in my hands in the treatment of diabetes mellitus. This non-success is due to three factors:

(a) The specific toxine of diabetes is affected only by a specific antiseptic.

(b) Bichloride of mercury or *auri et sodii chloridum*, when pushed to their physiological tolerance, do not effect the decline of the glycosuria.

(c) Bichloride of mercury, as well as chloride of gold and sodium, when administered for any length of time and in larger doses, reduce the oxidizing power of the red blood cells, thereby weakening the system and producing rapid emaciation.

The remedy answering all the demands for an ideal antidiabetic I find in a combination of bromide of gold with bromide of arsenic, called by its makers "arsenauro." This preparation undoubtedly exerts a specific influence upon the bacteria and the toxine of diabetes mellitus, which is elucidated by the following four cases:

CASE I.—Mr. C. L., aged fifty, American, clerk, consulted me on June 8, 1898. Family history was negative. Patient complained of polyuria, the existence of which dated back about three months. The frequency in urination he thought to be due to a stricture, the possible result of a neglected gonorrhœa. Patient had a moderate appetite, felt quite thirsty at times, and had lost some weight. The urine (which was voided to the amount of about seven pints daily), on June 10, 1898, showed a specific gravity of 1.038, and contained 7.1 per cent. of sugar, as ascertained by means of Stern's urinoglucosometer. A restricted diet and the administration of codeine caused only a moderate improvement of the symptoms. Bichloride of mercury, which was given for the last three weeks of December, 1898, in the doses recommended, not only produced no beneficial influence whatsoever upon the diabetic condition, but actually aggravated the condition of the patient. Early in July, 1898, my attention was drawn to the chloride of gold and sodium, which was handed to the patient in tablet form and administered first in doses of a fiftieth of a grain. The dose was gradually increased to a twentieth of a grain. After



five weeks' trial of this drug it had to be abandoned, as the condition of the patient had become alarming in the meantime.

At about this period I ran across an article in the *New York Medical Journal* regarding the use of arsenauro in diabetes, and determined to test this product, having previously used it with satisfactory results in malarial toxæmia.

On February 7, 1899, eight drops of arsenauro were given in half a glass of water three times daily. The restricted diet was ordered to be continued. Patient reported to me in one week. The glycosuria and polyuria were greatly diminished. The feeling of thirst was not experienced any longer, and he expressed himself as feeling perfectly well. The dose of arsenauro was gradually increased until he reached his full limit of toleration, which supervened at fifty drops. The quantity was lessened to forty-five drops, and continued in this dose for sixteen weeks. After this period I examined the urine, which revealed a specific gravity of 1.020 and was absolutely free of sugar. Patient was discharged as cured, with the instruction to continue the arsenauro for at least six months.

CASE 2.—M. H., a woman, aged thirty-four, American, unmarried, came to consult me September 11, 1898. In July previous, during the hot spell, she perspired greatly and suffered from excessive thirst. Her weight, which normally was a hundred and sixty-five pounds, had diminished to a hundred and thirty-five pounds. Frequent micturition was distressing her greatly. Appetite was voracious for some time, and her strength gradually declined. When first seen by me the daily quantity of her urine amounted to eight pints. Specific gravity, 1.046; sugar, 7,538 grains a day. She complained of incessant thirst, inordinate appetite, pain in back, and extreme feebleness. She was put on a restricted diet on September 20th, but no medication given her. Patient improved somewhat, but not sufficiently. In December, 1898, bichloride of mercury was given and the same diet continued, without effecting any noticeable change in the patient's condition. In February, 1899, she was put on arsenauro, and the same diet still continued. The medicine was started in eight-drop doses three times daily, to be taken in a glassful of Vichy water. Ten days after, great improvement had taken place. The urine became reduced to forty-nine ounces, specific gravity 1.028, and the sugar output to two hundred and ten grains for the twenty-four hours. After this the dose of arsenauro was gradually increased until the patient reached her full physiological limit; this took place at forty-drop doses—that is, after the administration of two drachms a day. Patient was instructed to occasionally discontinue the administration of the remedy for twenty-four hours, and then to start again on thirty-five drops.

This latter dose was taken for some months, with the result of rendering the urine entirely free of sugar. She was advised to continue with the medicine for at least six months longer. I examined her urine of late and found it absolutely normal and free of sugar.

CASE 3.—H. E. B., a man, aged thirty-seven, American, railroad conductor, consulted me in March, 1899, on account of an irritable bladder. Patient was compelled to urinate quite frequently during the day as well as during the night. His other symptoms left no doubt as to his real affec-

tion—diabetes mellitus. The disease, so far as I could ascertain, dated back for about a year, and seemed to be devoid of further complications. The quantity of urine voided varied from twelve to fifteen pints a day, with an average specific gravity of 1.042. Sugar averaged four thousand grains for the twenty-four hours. The treatment consisted in restriction of diet and the administration of arsenauro, ten drops of which were ordered to be taken in half a goblet of water three times a day. This dose was gradually increased until patient took sixty drops three times daily. When this quantity, three drachms, was taken every day, the patient's lids began to puff and his bowels became loose and caused griping. The medicine was discontinued for twenty-four hours, but again ordered to be taken in fifty-five drop doses. Patient had taken the fifty-five-drop doses for eight weeks, when I again examined his urine, which contained only a trace of sugar. One month later he was perfectly well, and all vesical irritation had disappeared—in fact, I pronounced him well. I advised patient to report to me from time to time, but to continue the arsenauro for at least six months.

CASE 4.—B. R., aged forty-seven, a woman, unmarried, American, milliner, thin and emaciated, able to attend to her business, consulted me April 12, 1899. Patient complained of great weakness, which had gradually increased for several months. She had excessive thirst and had voided a greatly increased quantity of urine, but her appetite was moderate. Her skin was dry, and she complained of intense pains in the calves of her legs, especially in the morning. There was distressing pruritus vulvæ present. The specimen of urine sent to me for examination presented a specific gravity of 1.045, and contained 8.1 per cent. of sugar. I restricted the patient's diet as to starches and sugar, and placed her at once on ten-drop doses of arsenauro, to be taken in a half tumblerful of water three times daily. After one week the dose of arsenauro was increased three drops every day until she reached its toleration. Physiological saturation was obtained when forty-five drops were taken three times a day. The administration of the remedy was then stopped (as I am in the habit of doing) for twenty-four hours, after the lapse of which it was again ordered to be taken in forty-drop doses. This dose was kept up for six weeks. On July 3d she had gained seven pounds in weight; urinalysis demonstrated entire absence of sugar; the pruritus had entirely disappeared, and there were no evidences whatsoever of symptoms pertaining to diabetes mellitus. Patient was advised to continue the medication for at least another six months.

The four cases which so readily yielded to this antitoxic treatment were apparently of bacterial origin. Arsenauro, by saturating the system, arrested bacterial activity, or killed the germs, or neutralized their toxins. However, only by saturation with the proper medicine—and, by the way, arsenauro is the only powerful alterative neutralizer which can be pushed to an almost incredible dose without doing bodily harm—can such results as are recorded in the foregoing be obtained.



## LONDON CORRESPONDENCE.

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**Teetotalers and Suicide.**—The coroner for Northeast London—Dr. Wynn Westcott—who has had fifteen years' experience as a coroner in London, and is the author of almost the only English work on suicide, tells us that it is very rare to find that a *bona fide* teetotaler takes his own life. As a curious instance of coincidence, he states that during the past week he has held inquests on two such cases, one of whom, a painter of thirty-six years, drowned himself in the river Lea; and the other, a man of thirty-two years, threw himself from the window in a lodging-house at Shoreditch. This latter suicide exhibited the further peculiarity of being a life-long total abstainer, who was nothing but a street loungeur. He would do no work so long as his friends kept him. He appears to have killed himself simply from the sheer necessity of having to go to work. As to the former case, there is, of course, the possibility that he may have been a sufferer from saturnine encephalopathy, but his widow was rather of the opinion that the hot sun of his colonial (Australian) previous home had "turned his brain." During the year 1899 he held fifty-eight inquests upon suicides, thirty-seven being males and twenty-one females, among whom he does not remember any one *bona fide* total abstainer. He observes that the number of female suicides more or less attributable to alcoholic excess is distinctly on the increase.

**A Popular Bacteriologist.**—Seven cities, it is said, dispute the honor of Virgil's birthplace. A parallel, but not, we are glad to say, a postponed compliment, has just been paid to Dr. R. M. Buchanan, bacteriologist to the Glasgow corporation. It seems that Dr. Buchanan was recently appointed to his present position on the nomination of the health committee, and that this committee proposed to monopolize his services, or at least to establish a first claim upon them. But the other departments have broken out in a rebellion, the voice of which has even penetrated to the council chamber. The sewage committee, the tramways committee, and others clamored for bacteriological advice and guidance, and, indeed, there seemed some danger lest our confrère should be torn to pieces by the various factions contending for the benefit of his services. Happily, peace was restored, and Dr. Buchanan was hailed as the bacteriologist, not of one party, but of the whole community. We trust that he will not find it a case of "o'er mony maisters."

**The equipment** of a base hospital for South Africa, in accordance with a proposal by the Lord Provost of Edinburgh and General Chapman, commanding the forces in Scotland, has been sanctioned by Lord Lansdowne and the Director-General of the Army Medical Department. It is to have one hundred beds, and the staff will consist entirely of Edinburgh surgeons and nurses.

**Dr. Alfred Bostock Hill** has been appointed medical officer of health for Warwickshire.

**The Malarial Commission.**—Mr. Chamberlain has informed a member of Parliament that the report of the Malarial Commission is not expected before the close of the year.

**Notification of Infectious Diseases.**—The necessity of the immediate notification of any outbreak of infectious disease among post-office servants is obvious, and it is reassuring to know that the system adopted is being rigorously enforced. Employes are required to report to their superior officer any case of scarlatina, small-pox, typhus, cholera, diphtheria, measles, or typhoid fever, occurring in their homes. Should the case be one of the first four of these diseases, the man is not allowed to attend to his duties. But this practice is not maintained as regards diphtheria, measles, or typhoid fever, except under special circumstances.

**Chemists at the Front.**—When the government intimated, in December last, that there were vacancies for army compounders with the army in South Africa, over a thousand applications from chemists' assistants, qualified and unqualified, were received. Not a tithe of these offers could be accepted. The temptation certainly was not a mercenary one. The pay was 3s. 6d. per day, with free kit, free rations, free passage out and home, and a gratuity of two months pay at the end of the war. Besides these, a number of chemists have gone out as volunteers, and there is scarcely a wholesale drug firm in the country which has not contributed some of its staff. Moreover, medicines, surgical appliances, foods, perfumes, and luxuries of every kind, including many popular patent medicines, have been included by manufacturing firms. The Vinolia company, by taxing themselves one half-penny on every cake of their soap sold since the war began, have already remitted four thousand guineas to the Mansion House Fund.

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**Case of Aortic Disease Complicating Gonorrhœa.**—Dr. Gilbert L. Bailey presented to the Cincinnati Academy of Medicine (*The Cincinnati Lancet-Clinic*, March 3, 1900) a case of aortic murmur complicating gonorrhœa. Seven years ago the patient had an attack of gonorrhœa, followed by stricture formation. This was treated surgically, after which he had a lymphangitis of the left leg. Again, he has an aortic murmur, supposed to be due to the gonorrhœa. No blood examinations were made, so that it is impossible to state whether the conditions in the endocardium and in the leg are due to the havoc wrought by the advent of the migrating gonococci in these places.



## NEW YORK LETTER.

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**New York Surgical Society.**—At a recent meeting of this society, Dr. Willy Meyer, who is attending surgeon to the German Skin and Cancer and Post-Graduate hospitals, and consulting surgeon to the Infirmary for Women and Children, presented a case of thorocoplasty for bronchial fistula. The patient was a boy, nine years of age, who gave a history of chronic bronchitis dating five or six years. A physician was consulted in April, 1898, who pronounced the case one of sacculated empyema. Soon afterwards the boy entered the hospital, where a thorocoplasty was done, the operation being followed by a sinus which discharged continuously. When Dr. Meyer first saw the patient, in June, 1898, he injected fluid into this sinus, which was evacuated through the mouth, thus proving the existence of a bronchial fistula. In order to gain free access to the pus cavity in the chest, he made two parallel incisions, which he united by a perpendicular cut through the old fistula; this gave two lateral flaps, which were turned back and three ribs resected. The pleura was tightly adherent, and an opening about the size of a small pea was found in the bronchus, into which a probe could be introduced. To this a Paquelin cautery was applied and the cavity was packed. The sinus in the chest closed in about two months, but it reopens at times and a small amount of pus oozes out. In addition to this, when the boy laughs or coughs, he evacuates through the mouth a large amount of pus. Dr. Meyer thought he had to deal with not only a bronchial fistula, but also an abscess of the lung of considerable size.

At the same meeting Dr. Brewer, attending surgeon to the City Hospital, presented a case of follicular perforation of the ilium. The patient was a woman, forty years of age. She was brought to the hospital suffering from a strangulated femoral hernia, which had existed four days. An immediate operation was done. About seven inches of a very dark intestine was found in the hernial sac, which also contained a certain amount of discolored fluid. As soon as the constriction was relieved, the color of the gut improved, and it was decided to drop it back. After twenty-four hours the patient developed symptoms of peritonitis, and died very suddenly. At the autopsy, so soon as the abdomen was opened, free gas and pus escaped through the incision, showing that a perforation existed. The portion of the gut that had been strangulated, although somewhat necrotic in parts, showed no perforation, but seven inches above the strangulated area there was found a distinct perforation of the ilium; the peritoneal surface was the seat of recent adhesions, and the mucous membrane in that neighborhood was in a state of acute enteritis. Two or three distinct lesions were found. Dr. Brewer was at a loss to understand the cause of the condition above the strangulation. He referred to the statement made in Koenig's "Surgery," that this condition had been observed in a number of cases of strangulation of the gut, and had been attributed to the intense traction of the mesentery, which cuts off the blood supply;

it had also been attributed to the fact that there is an accumulation of feces above the seat of constriction, which distends the gut, and brings about a necrosis.

**Valentine Mott's Difficulties in Obtaining Dissecting Material.**—In his reminiscences, written over fifty years ago, I find the following interesting item:

*"Material for dissection was scarce, and could only be obtained by individual enterprise, and in many such cases—now happily, by the existing state of things, rendered unnecessary to your advancement in knowledge—have I been engaged. I well remember on one occasion driving in disguise, a cart containing eleven subjects, from the old Potter's field burying ground, sitting on the subjects, and proud enough of my trophies; but we were not always so fortunate, being on many occasions discovered and pursued, and obliged to leave our spoils behind us, with only our hard labor for our pains. One little incident of the times also occurs to me. A German, who had been hung, was given to the college for dissection, and with the colored porter, I went in a carriage in the evening to get the body. My other associate was a Dr. Buchanan, a Scotchman, and professor in the college, residing in the city. On calling at his rooms to take him up, I found him arranging his pistols, and complaining of feeling very agueish, and with difficulty persuaded him to proceed. The night was cold, and on arriving on the ground the doctor's ague increased so rapidly, and the valor oozed, like Bob Acres' in the 'Rivals,' so freely from the tips of his fingers, that he decided to return home, begging strongly for the use of the carriage, which I peremptorily refused him. With great difficulty we exhumed the body, and then my colored associate also deserted me, declaring that he could not touch the subject on account of his having been hung. I had, therefore, to lug the body, attired in its white robes, by my own strength to the carriage—for I had great strength in those days—and partly by force and partly by menaces, compelled the man to assist me in getting the body into the carriage, and what was still more difficult, to get in along with it, so thoroughly was he terrified. On arriving at the cottage, I found my valorous associate slowly recovering from his ague fit, by the aid of a strong glass of brandy toddy, and deeply lamenting his inability to assist me on the occasion."*

**An Embarrassing Situation.**—Your correspondent attended a clinic last week given by one of New York's most prominent surgeons in one of the largest hospitals; it was attended by a very large class. He was to first curette and then correct a retroflexed uterus by a new operation. The irrigating curette entered the uterus about five inches, which rather surprised the operator; but he was more surprised when, upon withdrawing the instrument, it was followed by a gush of blood. Work was discontinued, the patient placed in bed, given opiates and complete rest. Whether she aborted or not is not yet known. It was claimed that she menstruated two weeks previous. Pregnancy was not suspected. The operator believed that because the patient was under the influence of ether the contractions would not start.

It is to be regretted that some benefactor of humanity does not endeavor to discover some new diagnostic points in regard to pregnancy and



tumors, instead of always seeking some new operation. This suggests another incident. A woman brought action against the Omnibus Cable Company, in a western State, for damages for injuries alleged to have been received by her in the derailment of one of the cable cars. Some months before the trial the woman was examined by six physicians for the purpose of ascertaining her physical condition. At the trial several of these physicians testified that they had ascertained during the examination that she was suffering from a tumor, either ovarian or uterine, about the size of a cocoanut. There seemed to be no dissent as to the existence of the tumor. The family physician testified that the tumor had increased in size until it had become four times as large as when the examination was made. The defendant contended that the ailments were caused by the tumor and not by the accident of the cable car. On the other hand, the plaintiff sought to show that the tumor was the result of the accident. Ten days after the trial the woman gave birth to a child at full term. It was admitted afterwards that she had not been suffering from a tumor at all.

**New York Orthopædic Dispensary and Hospital.**—The annual course of lectures at this institution on orthopædic surgery is now being given by Dr. Russell A. Hibbs, a surgeon to the hospital. It is free to the medical profession and to students.

**Medical Association of the Greater New York.**—The officers elected for the ensuing year are: Dr. Robert F. Wier, president; Dr. Wm. McCollom, vice-president; Dr. P. Brynberg Porter, recording secretary; Dr. Frank C. Raynor, corresponding and statistical secretary; Dr. Augustus D. Ruggles, treasurer.

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**William Sydney Thayer**, in a recent address before the Medical Society of Virginia (*Georgia Journal of Medicine and Surgery*), gives an account of some of the recent investigations concerning the hematozoa of malaria. The summary of the light thrown by recent investigations on the nature and manner of infection of malarial fever is given by Thayer as follows:

*First.*—A certain genus of mosquito (*anopheles*) appears to be constantly associated with malarial fever, prevailing in the same localities and at the same time of the epidemics of the disease.

*Second.*—The malarial parasites have been shown to have two cycles of existence, one in the human being and one in the stomach walls of the different members of the genus of mosquito.

*Third.*—Mosquitoes of the genus *anopheles* having fed upon an infected individual are capable, after a certain time, of spreading the disease by their bites.

*Fourth.*—An improperly treated case of malaria may be a source of danger to individuals in the neighborhood.

## MEDICAL NOTES.

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**Tedeschi** (*Rif. Med.*) has made a series of experiments on guinea-pigs, with a view of confirming the clinical observations on the value of morphine in tuberculosis, and the value of morphine in checking the further progress of the tubercle. Clinically, it seemed to him that cases treated with morphine lived longer. The resistance of the guinea-pig to morphine was found to be very high, much greater than that of men. These experiments with a view of determining the relative inhibition of the tubercle formation by the use of morphine all resulted negatively, for the animals treated with morphine died more speedily of tuberculosis than those not so treated. Experiments on the more or less sudden demorphinization of the guinea-pigs gave equally unfavorable results as far as tuberculosis is concerned.

**Vanilla Poisoning.**—Audeoud (*Z Rev. Med. de la Suisse Rom.*, October 20, 1899) observed an outbreak of poisoning in a factory where the crude vanilla fruit was prepared for commerce. The symptoms were local and general. The local symptoms consisted of a papulo-vesicular eruption on the exposed parts of the skin—arms and face. There was frequently dermatitis, with swelling of the subcutaneous tissue, the edema being most marked on the backs of the hands, the eyelids, the lips and the cheeks, so that the patients looked like cases of small-pox. The eruption disappeared within a few days, if the cause was removed, with local treatment. The general symptoms were excitement and insomnia, for which potassium bromide was given. Menorrhagia was also present; sometimes so intense that syncope followed. Menstruation returned in the case of one woman of forty-four years, who had not menstruated in two years.

**Local Anesthesia.**—Ruffin recommends the use of distention of the tissues with sterile normal salt solution to obtund the sensibility, completing the anesthesia with cocaine. He has operated in this way on a number of cases: one of resection of the ribs, one of incarcerated femoral hernia, one of amputation of the arm where general anesthesia was contraindicated, and one of abdominal section.—*Seaboard Med. Jour.*

**Dr. A. Block**, the French anthropologist, attacks the theory that thick lips are a denotement of sensuality, while thin and pale lips denote spirituality, firmness, and elevated character. In a recent paper the scientist claims that the shape, size and color of the lips are pure race characteristics, and that in the hybrid peoples of Europe and America, where there has been such a general intermingling of races, a child may well inherit from not very remote ancestors lip forms that completely belie the actual character of the child, as indicated by the lip theory. Dr. Block's investigations satisfy him that really thick lips in the white races are always anomalies or freaks of nature.—*The Medical Times.*



**An Easy Method of Reducing Dislocations of the Shoulder and Hip.—**

Lewis Stimson (*N. Y. Med. Record*, March 3, 1900) gives a new method of reducing dislocations of the hip and shoulder. To reduce an anterior dislocation of the shoulder the patient is placed upon a canvas cot. A hole is cut in the middle of the canvas through which the dislocated arm is passed and a sand-bag is allowed to hang from the patient's wrist. The cot is elevated from the floor by means of blocks, so that free extension is superinduced by means of the weight of the sand-bag. After a few minutes the dislocation will be found to be reduced. This method has never failed in the hands of Stimson.

For the reduction of dislocations of the hip (dorsal) the patient is placed prone upon the table in such a way that his thighs extend beyond the end of the table. The uninjured thigh is held horizontal by an assistant to prevent tilting of the pelvis, and the injured one is allowed to hang vertically while the surgeon, grasping the ankle, holds the leg horizontal (right-angle flexion of the knee) and gently moves it from side to side. If relaxation of the muscles is slow to appear, a sand-bag is placed on the leg close behind the knee, or pressure is made there with the hand.

**Water Supply and the Sewerage Problem.**—Coakley (*Buffalo Med. Jour.*) urges that before the making of any new plans for the building of sewers in Buffalo the whole question of sewage disposal ought to be thoroughly investigated by the city authorities. He asks for the following measures:

*First.*—The construction of the new tunnel to the lake and another pumping station at the foot of Porter avenue.

*Second.*—The immediate consideration of all questions connected with the disposal of sewage, with a view to the abatement of the existing evil.

*Third.*—The positive insistence by the city of some system of drainage at the new steel works that will effectually prevent any additional contamination of the drinking water.

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**The manufacturers of Fellows' syrup hypophosphites** have recently printed a very readable little pamphlet entitled "The Test of Time and Experience." This little book contains an exposition of the principles underlying medication with this preparation. It gives the medical reader a clear insight into the subject of treatment of the different pulmonary affections amenable to this drug, and will surely be worth reading by all. It is certainly a credit to the ethical house which edits the book and makes the well-known syrup of hypophosphites (Fellows').



**Atlas of Operative Surgery.** By Dr. O. ZUCKERKANDL, of Vienna. Edited by J. CHALMERS DAcOSTA, M. D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital. With 24 colored plates, 217 text-illustrations, and 395 pages of text. Cloth, \$3.00, net. W. B. Saunders, Philadelphia. Lewis S. Matthews & Co., St. Louis, agents.

This little book on operative surgery is brief and concise, well illustrated, and contains quite a number of valuable points of information for the surgical student. The operations about the region of the neck are deserving of particular mention, as they serve to clear up some of the confusion that often prevails on this subject. The text is well written, and includes about all the most important of the operative surgical procedures followed by the modern surgeon.

**Atlas of Internal Medicine and Clinical Diagnosis.** By Dr. CHR. JAKOB, of Erlangen. Edited by AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic. 68 colored plates, 64 text-illustrations, and 259 pages of text. Cloth, \$3.00, net. W. B. Saunders, Philadelphia. Lewis S. Matthews & Co., St. Louis, agents.

There is always a place for a book of this kind. It summarizes admirably the results obtained by such men of authority as Jakob *et al.* The illustrations of the various reactions obtained by clinical microscopic means and clinical chemistry are novel and instructive—much more so than most of the descriptive work that has been done on this line. It is a compendium of facts which are well worth perusal by both students and practitioners. One cannot help from being benefited by having such a book and referring to it when dealing with problems in internal medicine.

**A Text-Book of Pathology.** By ALFRED STENGEL, M. D., Instructor in Clinical Medicine in the University of Pennsylvania; Clinical Professor of Medicine in the Woman's Medical College of Pennsylvania; Physician to the Philadelphia Hospital; Physician to the Children's Hospital, Philadelphia. Second edition. Handsome octavo volume of 848 pages, with 362 illustrations, many of which are in colors. Prices: Cloth, \$4.00, net; half morocco, \$5.00, net. W. B. Saunders, Philadelphia. Lewis S. Matthews & Co., St. Louis, agents.

We have in this volume a valuable addition to the current text-book literature of pathology. Most of the most valuable contributions to the subject of pathology and pathological anatomy that have appeared in the past have been written by European pathologists, and so have not been accessible to American readers. While Stengel brings out nothing espe-



cially new in the way of original research on pathological questions, still he gives a very fair review of the general subject of pathology. As much is given, and in a very readable form, as might be expected from a volume of this size. It is a good text-book for the student, and will surely gain a place in the lists of text-books advised for students' use by pathological teachers in this country. The reputation of its author presupposes that the work of his pen is good, and we are not disappointed in the work after perusing it.

**Surgical Anatomy.** A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By JOHN B. DEEVER, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. In three volumes. Illustrated by about 400 plates, nearly all drawn for this work from original dissections. Volume I.: Upper Extremity; Back of Neck; Shoulder; Trunk; Cranium; Scalp; Face. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1899. Price, \$9.00.

This contribution to medical literature is positively one of the best books in the English language upon the subject of surgical anatomy. Proceeding in the order of reason, something should be said about the general make-up of the work as a whole. It gives a wonderfully accurate description of the anatomical parts in the order of dissection; and this description, excellent though it is, is greatly enhanced by the accompanying plates. The plates speak for themselves, and show even the cursory reader what a wealth of painstaking and fruitful labor was expended in the preparation of this volume. Aside from the most excellent manner of description of the anatomy of the body, each anatomical statement is accompanied with a trite surgical suggestion and explanation, showing the interdependence of these two branches upon each other. Not only do these surgical "pointers" instruct the reader in surgical matters, but they also impress indelibly upon his memory the anatomical facts connected therewith.

**The American Year-Book of Medicine and Surgery.** Under the general editorial charge of GEORGE M. GOULD, M. D. In two volumes. W. B. Saunders, Philadelphia. 1900. Lewis S. Matthews & Co., St. Louis, agents.

The Year-Book of Medicine and Surgery has grown beyond the space of one volume, and it comes to us this year in two handsome volumes. It is a review of the world's progress in medicine and surgery during the past year, and one can find in its pages every event or discovery of worth which has been made in this department of the natural sciences during the past current year. One of the greatest advantages which is possessed by this review is the careful and discriminating manner in which the editors take up the different publications of medical men and lay stress only on what, in their good judgment, is worth repetition. This really is what constitutes the essence of the book—*i. e.*, the exposition of the good and the omission of the bad. The volume on medicine contains everything that medical men should concern themselves with, and the surgical volume has the same good tenets for the surgeon. The book is concise, pithy, and correct. No one can possibly hope to review for himself the work in medicine as this book reviews it, hence every medical man should own this book.

## SURGICAL SUGGESTIONS.

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**J. B. Bissell** reports a case of a man, aged forty-eight years, in whom complete union was obtained by open operation seven months after the injury.

**J. Pagenstecher** reports a new material for sutures and ligatures. It is linen thread impregnated with a solution of celluloid.

**M. P. Redard** states that the treatment of congenital dislocations of the hip by the bloodless method ought to be tried on patients from two to twelve years of age. In young patients the method, with proper technique, is free from danger and generally gives excellent results.

**J. O'Conner** takes the usual surgical position in regard to operative intervention in appendicitis. He finds in an adherent appendix and in an abnormally short meso-appendix, explanations of many of the symptoms of the relapsing cases not operated on at the time of the first attack.

**T. M. Conerty** gives the history of a case of Colles' fracture treated by him. Some time after the accident a "sore" developed on the patient's arm—a strumous boy—due to the devitalization of the tissue from the fall and subsequent infection from gross negligence on the part of the parents. There is now a slight deformity, due to cicatricial contractions. The father of the boy, who has sued for damages, was, at the time he began the action, under an order of commitment to jail for debt. No matter, therefore, how successful the defense may be, the physician must pay the costs of defense.

**J. M. Elder** gives Dr. Sharpe's description of electrical burns, adding any differences he has himself noted:

*First.*—The burn is at first dried and crisp, the site being bloodless; later, oozing occurs. All of the symptoms of moist gangrene will be present.

*Second.*—Pain in some patients is slight; in others, severe.

*Third.*—Some patients experience shock, some do not.

*Fourth.*—As to prognosis, recovery is from one and one-half to five times as long as in the case of other burns.

*Fifth.*—The ascending degeneration following these burns affects chiefly the striped muscle tissue, and is often extensive. Treatment is very unsatisfactory—excision, amputation, and skin-grafting being often necessary.

**The Etiology of Acute Diffuse Pneumonia.**—Wm. N. Beggs (*Col. Med. Journal*) classifies the acute diffuse pneumonias as follows:

1. Croupous pneumonia: (a) Typical; (b) Atypical.
2. Catarrhal pneumonia: (a) Typical; (b) Hypostatic; (c) Aspiration; (d) Desquamative.

He says it is extremely difficult to classify some cases, as one type will merge into another, and will partake of the characteristics of both.



## MEDICAL SOCIETIES.

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The Tri-State Medical Society of Iowa, Illinois, and Missouri will meet in St. Louis, April 3d and 4th, at Planters Hotel. The program is as follows:

Society convenes at 9:30 A. M. each day.

### MORNING SESSION, APRIL 3D.

Half-past nine o'clock, calling to order; chairman of committee of arrangements; reading of minutes of last meeting; report of committee of arrangements; Dr. R. B. H. Gradwohl, St. Louis, Mo.: Preliminary Report on the Bacterial Cause of Scarlet Fever; Dr. Chauncey Sherrick, Monmouth, Ill.: Salivary Fistula; Dr. J. H. Coulter, Summitville, Ia.: Pulmonary Tuberculosis Treated with Large Doses of Creosote, with Results; Dr. F. B. Dorsey, Keokuk, Ia.: Abdominal Hysterectomy; Dr. R. B. Turner, Canton, Mo.: Therapy of Miscarriage; Dr. T. B. Ellis, Bethany, Mo.: Erysipelas; Dr. H. G. Nicks, St. Louis, Mo.: Some Results from Suggestive Therapeutics.

### AFTERNOON SESSION, APRIL 3D.

Report of committee on credentials; Dr. T. E. Potter, St. Joseph, Mo.: Operations on the Thorax; Dr. William Porter, St. Louis, Mo.: The Limitations of Tuberculosis; Dr. R. J. Christie, Quincy, Ill.: Report of Five Operative Cases of Tubal Gestation; Dr. Geo. W. Cale, Springfield, Mo.: Some Remarks on Head Injuries; Dr. C. E. Ruth, Keokuk, Ia.: Cure of Hemorrhoids; Dr. E. C. Renaud, St. Louis, Mo.: The Treatment of Glaucoma Up to the Present Time; Dr. Frank M. Fuller, Keokuk, Ia.: The Feeding of Infants in Hot Weather; Dr. A. H. Ohmann-Dumesnil, St. Louis, Mo.: An Epidemic of Impetigo Contagiosa.

### EVENING SESSION, 8:00 P. M.—At City Hospital.

President's address: Dr. O. Beverly Campbell, St. Joseph, Mo.; Clinic in Abdominal Surgery and Gynecology: Dr. J. Montgomery Baldy, Philadelphia, Pa.; Pathological Demonstration: Dr. Hugo Summa, St. Louis, Mo.

### MORNING SESSION, APRIL 4TH.

Announcements and report of committee on credentials; Dr. L. P. Walbridge, St. Louis, Mo.: The Use of Creosote in Malarial Conditions in Childhood; Dr. F. J. Tainter, Warrenton, Mo.: Pathology of the Ankle-Joint; Dr. H. C. Mitchell, Carbondale, Ill.: Is the Present Epidemic of "Small-Pox" Real Small-Pox?; Dr. D. S. Fairchild, Clinton, Ia.: Some Points Worthy of Consideration by the General Surgeon; Dr. A. E. Prince, Springfield, Ill.: Acute Inflammation of the Middle Ear; Dr. H. E. Pearce, Kansas City, Mo.: A Case of Double Vagina and Double Uterus—Four Pregnancies; Dr. A. J. Ochsner, Chicago, Ill.: A Few Practical Points to Prevent Troublesome Complications in Fractures of the Ankle and Elbow; Dr. James Moores Ball, St. Louis, Mo.: Some New Points in Ophthalmology.

### AFTERNOON SESSION.

Dr. H. Landis Getz, Marshalltown, Ia.: Minor Casualty Surgery—Ideals of Practice and Results; Dr. A. H. Cordier, Kansas City, Mo.:

Pathologic and Clinical Phases of Gall-Stones; Dr. J. B. Murphy, Chicago, Ill.: Intestinal Fistulæ—Pathology and Repair; Dr. Byron Robinson, Chicago, Ill.: Vaginal Hysterectomy in 225 Consecutive Cases, with four deaths; Dr. A. C. Bernays, St. Louis, Mo.: A Critique of the Methods of Surgical Treatment of Myoma Uteri; Dr. W. B. La Force, Ottumwa, Ia.: Loose Kidney; Dr. J. C. Morfit, St. Louis, Mo.: Stump Pregnancy; Dr. Emory Lanphear, St. Louis, Mo.: Some Lessons Learned from 1000 Abdominal Sections.

**Announcement of a Special Course in Ophthalmology for Medical Practitioners.**—A special course in ophthalmology for medical practitioners will be held in St. Louis, beginning Monday, April 16, 1900, and continuing six weeks. It will consist of didactic lectures, recitations, clinical lectures, and laboratory work. The instruction will be given by Dr. James Moores Ball, assisted by Dr. E. C. Renaud, and a corps of special lecturers.

Practitioners attending this course will receive instruction in the use of the ophthalmoscope, Javal-Schiötz ophthalmometer, refractometer, perimeter, phorometer, skiascope, astigmometer of Kagenaar, electromagnet, and all instruments used in ophthalmic surgery. Particular attention is called to the following lectures and demonstrations:

1. Two Clinical Lectures on the Relationship of General Surgery to Ophthalmic Surgery, by A. C. Bernays, M. D., M. R. C. S., England.

2. A Course of Four Lectures on the Relationship of Bacteriology to Diseases of the Eye, by R. B. H. Gradwohl, M. D., Bacteriologist to the St. Louis City Hospital.

3. Two Clinical Lectures on (1) Cutaneous Diseases of the Eye, and (2) Syphilis of the Eye, by A. H. Ohmann-Dumesnil, M. D., Dermatologist to the St. Louis City Hospital.

4. Two Clinical Lectures on the Localization of Foreign Bodies in the Eye, Orbit and Brain by the X-Ray, by W. W. Graves, M. D.

5. A Course of Four Clinical Lectures on the Relationship of Nervous Diseases to Ophthalmic Diseases, by Arthur E. Mink, M. D., Professor of Nervous Diseases in the St. Louis College of Physicians and Surgeons.

6. A Lecture on the Methods of Preserving and Mounting Eye Specimens, by L. W. Beardsley, M. D., Assistant to the Chair of Ophthalmology in the Marion-Sims College of Medicine.

7. Two Lectures on (1) Pathology, Diagnosis and Treatment of Exophthalmic Goiter, and (2) Anatomy and Surgery of the Cervical Sympathetic, by Emory Lanphear, M. D.

8. Two Lectures on (1) The Operative Treatment of High Myopia, and (2) The Relationship of Nasal Diseases to Ophthalmic Diseases, by A. C. Corr, M. D.

Other Special Lectures and Demonstrations will be announced later. For further information, terms, etc., address Dr. James Moores Ball, 3509 Franklin avenue, St. Louis, Missouri.



# FORMULÆ.

## For Bronchitis (First stage).—

℞ Potassii citratis..... ̄ ss  
 Apomorphinæ hydrochlor..... gr. j  
 Syrupi ipecacuanhæ..... f ̄ ss  
 Succo limonis..... f ̄ ij  
 Syrupi..... q. s. ad f ̄ iv

M. Sig.—A dessertspoonful in water every three hours.—WOOD.

Or:

℞ Vini ipecacuanhæ..... f ̄ ij  
 Liquoris potassii citratis..... f ̄ iv  
 Tincturæ opii camphoratæ,  
 Syrupi acaciæ..... aa f ̄ j

M. Sig. — Tablespoonful thrice daily.—  
 DA COSTA.

## For Chronic Renal Congestion.—

℞ Quininæ sulphatis,  
 Pulveris digitalis,  
 Pulveris scillæ.....aa gr. xxx  
 Extracti nucis vomicæ.....gr. v  
 Pulveris ferri carbonat.....gr. xxx

M. Div. in pil. No. xxx. Sig.—One pill every three hours.—PEPPER.

## Parasitic Skin Disease.—

℞ Thymol,  
 Phechine.....aa ̄ ij  
 Pulv. zinci oxidi,  
 Ung. picis liquidæ,  
 Lanolin (carbulated 10%) aa ̄ iv

M. ft. ung. Sig.—Use as an embrocation as directed by physician.

A Lotion for Eczema and Urticaria.—The following formula (*Bulletin general de therapeutique; Progres medical*, December 30, 1899) is attributed to Wolff:

℞ Prepared calamine,  
 Zinc oxide.....aa 6 parts  
 Carbolic acid..... 2 parts  
 Lime water..... 60 parts  
 Rose water..... 130 parts

M. For children, the proportion of carbolic acid is to be reduced.—*New York Medical Journal*.

## Pruritus Vulvæ.—

℞ Unguent. chiolin..... ̄ j  
 Sig.—Apply at night.

## Toothache.—

℞ Extract of opium,  
 Powdered camphor,  
 Balsam Peru.....aa gr. xv  
 Mastic..... gr. xxx  
 Chloroform..... ̄ v

M. Sig.—Wet a small piece of absorbent cotton with this solution and insert in cavity of tooth.—*Exchange*.

## For Acute Vomiting.—

℞ Acidi carbolici..... gr. xvj  
 Cocaine hydrochloratis..... gr. iij  
 Glycerini..... f ̄ ss  
 Aquæ..... f ̄ ij

M. Sig.—In teaspoonful doses until effect is produced. (Give before rising in vomiting of pregnancy.)—*West Medical Review*.

Scabies.—Kaposi's treatment is as follows: The patient takes a hot bath, and the following is well applied night and morning for three days:

℞ B. naphthol..... ̄ iv  
 Sapo viridis..... ̄ iss  
 Cretæ albæ, pulv..... ̄ iiss  
 Adepis..... ̄ iij

M.

## Epididymitis.—

℞ Atropine sulph..... gr. vj  
 Phechine..... gr. xxx  
 Glycerinæ..... f ̄ ij

M. Sig.—Apply on piece of lint inside of suspensory bandage.

## NEW REMEDIES.

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**Vichy Celestins.**—This much-imitated and substituted natural water comes from the town of Vichy, and is bottled under the direct supervision of the French government. The great popularity of the various mixtures offered under the name of "Vichy" throughout our country are sold on the reputation of Vichy Célestins, and it is needless for us to call attention to the inferiority of the imitation products or to remind our readers that the mineral ingredients of a water when mingled with the proper amount of  $H_2O$  and charged with gas does not result in an efficient substitute of the natural product. The therapeutic activity of Vichy Célestins is best shown in the treatment of uric acid conditions in rheumatism, gout, eczema, etc. In justice to both patient and physician, only the genuine spring water should be employed.

**Lubri-Chondrin.**—Our readers will find this agent a lubricant much superior to vaselin and the other petroleum derivatives. Lubri-chondrin is the gelatinous substance obtained from chondrus crispus (Irish moss), with formaldehyde 1:1500 and oil of eucalyptus 1:000 added. It is sterile, as the above outline of the ingredients show, and is *soluble in water*. Samples of lubri-chondrin with literature will be sent by Van Horn & Co., Park avenue and Forty-first street, New York.

**Vapo-Cresolene.**—Cresolene vapor is now employed to considerable extent for disinfection purposes. It has recently been used by railways for disinfecting cars which have carried consumptives and small-pox cases, with apparently satisfactory results. Cresolene is a product of coal-tar, and is credited with greater antiseptic power than phenic acid.

**Phecline.**—Our readers will do well to send to German Chemical Company, Department C, Chicago, for sample package of phecline. It is especially indicated in treatment of skin diseases.

**A Cod-Liver Oil Preparation.**—There has existed, says Dr. Edward Sawyer, of Gardner, Massachusetts, a growing demand for a preparation of cod-liver oil which should possess the necessary essentials of being readily assimilated, palatable, and easily retained by sensitive stomachs.

Morrhumalt, in every particular, meets these requisites. It contains the reconstructive elements of cod-liver oil, combined with extract malt, hypophosphites, fluid extracts, eriodictyon and wild cherry. It is delightfully palatable. I cannot too strongly emphasize its value as an ideal reconstructive.

It is with a feeling of extreme satisfaction to me to know that in many cases when the vital energies are reduced to the lowest possible ebb, as the result of prolonged exhausting diseases, that in morrhumalt I find one of the most efficient remedies to rapidly repair the waste tissues. As instances, I may mention the case of a patient who had never recovered from the effects of la grippe, contracted some six months previously.



After administering various remedies usually recommended to recuperate my patient, without any perceptible change, I was induced to try morrhum-malt, more as a forlorn hope than with any idea that good results were to be so quickly attained. Almost immediately my patient began to have lessened cough, the appetite returned, and in a very short time he resumed his normal condition of health and vigor.

From this I extended its use to convalescents in pneumonia, pleurisy, typhoid fever, etc., and in every instance the results were quickly marked and eminently satisfactory.—*Medical Standard*.

**The Eureka Nebulizer** supplies a want to physicians in the treatment of all diseases of the air passages. It is not a cure-all, nor is it claimed that it will renew destroyed functions, but any patient that has acute or chronic bronchitis, incipient or chronic consumption, will receive immediate relief in from one to six treatments. By this treatment the collapsed bronchial tubes and air passages are dilated and cleansed, the lung capacity increased, enabling the patient to breathe full and free; this increases oxidation, brings refreshing sleep, relieves the oppressed condition for want of air, and allays the cough. It increases chest expansion, as it is a most perfect lung gymnastic exercise; it never fatigues, always exhilarates. No change of climate can bring such quick results. To the incurable it gives relief and prolonged life. For catarrhal conditions, deafness and middle ear diseases, it is equally valuable, and affords the physician a ready means of successfully treating the great number of patients suffering from diseases of the air passages.

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**Removal Notice.**—The Crystal Water Company, of St. Louis, has removed to 2020-2026 Walnut street. Crystal Water furnished by this firm is favorably known to physicians as a water absolutely free from chemical and organic impurities. It is doubly distilled and reaerated with sterilized air. The profession find it not only unequaled for drinking purposes, but especially valuable in compounding medicines; in all diseases of the assimilative and excretory organs; in surgical operations, by reason of its portability and aseptic qualities; in chemical analyses and for cleaning containers and instruments; in obstetrical practice and genito-urinary surgery; in cases where laparotomy is performed; in medical colleges and for bacteriological work; in hypodermic injections.

# Interstate Medical Journal.

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## EDITORIAL DEPARTMENT.

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### FOREIGN BODIES IN THE ABDOMEN AFTER OPERATIONS.

Howard Kelly offers some timely suggestions looking toward the prevention of the bad idea of leaving a part of the surgeon's armamentarium in the belly of surgical patients after laparotomies. Many times has this thing occurred, and many a surgeon has shed salty tears when the fact came to light that a pair of hemostatic forceps, a wad of gauze, a pair of scissors or something else has been overlooked and has been sewed up in a patient's belly, with all the evil consequences that one's imagination could depict as following upon such a dire catastrophe. Kelly advises the following: Always begin operation with a definite number of pieces. Write down upon a slate or piece of paper the number of pieces of gauze or sponges in use. If more are needed, see to it that that fact is duly recorded. Avoid packing pieces of gauze in the abdomen out of sight. Tracers should be attached to all pieces of gauze and sponges. The count should not be muddled by cutting a sponge or piece of gauze in half. Have one assistant to handle the sponges, and let him be responsible for the number at the close of the operation.

A simple wire frame can be used to receive the discarded gauze and sponges. Examine everything carefully before closing up the belly.

### THE IMPORTANCE OF A GOOD PRELIMINARY EDUCATION TO MEDICAL MEN.

A. J. H. Crespi, writing under the above caption in *The Physician and Surgeon* of March 8, 1900, brings out a few salient points which deserve some comment. Crespi makes the point that there are more reasons



than one why the medical man should have a good preliminary education before taking up the study of medicine. In the main, he thinks that the medical man would attain a better position in society than he now holds were his mind of broader caliber as a result of a liberal training in arts and letters. Instead of spending his life in the hurry and bustle of practice, as he ordinarily does, without a minute to give to other subjects, the medical man of good education could "court the Muses," devote spare time to art, and converse intelligently on subjects not medical in their nature. In short, as a result of education he could even draw from his own meditations, as he drives from house to house, much solid pleasure of a diverting nature.

A point which is not touched on by this writer is the great help which a liberal preliminary education gives to the medical student in the pursuit of his studies. It is an impossibility for an illiterate and uneducated man to properly grasp the problems which arise during the medical course. A good knowledge of medicine presupposes a good general knowledge of the higher branches, and unless a man has been well educated he cannot dare hope to acquire that knowledge of his professional subjects which is now *demanded* of the scientific doctor. Where is the man who can take up the study of medicine without a training of the right kind in biology? Where is the man who can hope to properly even entertain a hope of ever knowing how to make a correct diagnosis without a good insight into the laws of chemistry, physiologic chemistry, and last, but not least, *the science of deduction*? Show us this man who can do this without such a knowledge and, verily, we will bow the knee to him and look upon him with reverent eyes, for surely the ability to do all this without this training can only be possessed by those who have, in the words of our friend Norbury, "the power born of God."

#### MEDICAL MEN IN PUBLIC OFFICES.

Our good friend, the editor of the *Cincinnati Lancet-Clinic*, in speaking of the political situation in Cincinnati, relates that there are many candidates from the medical profession for the school board positions in that city, and justly states that there is no class more entitled to representation in that position and in kindred positions than the medical man. Who knows so much as the doctor as to the mental and physical capabilities of school children, and who knows so well the proper way of caring for them by wise administration? Moreover, the doctor should hold other positions in municipal and state and even national affairs. He is the educated man; he is the man who by the very nature of his profession is competent to take in hand weighty problems involving the lives of the community and solve them in a fair and timely manner. As we have so often pointed out before, the medical man is called upon now at this hour to declare himself. He must come out of his shell and wield that power which belongs to him. In that way the medical profession will be vastly benefited, the community will be benefited, and the future of our land will become bright and hopeful.

**A PATHOGNOMONIC SIGN OF COLLES' FRACTURE OF THE RADIUS.**

It is true that the silver-fork deformity does not manifest itself as frequently in cases of Colles' fracture as some of the text-books and teachers of surgery would have us believe. It is a sign which is more the exception than the rule. This point has been mentioned repeatedly by surgeons of our acquaintance. Martin W. Ware, in the *Medical Record* for March 31, 1900, brings out the point that the cardinal pathognomonic sign of fracture of the lower end of the radius is *not* the silver-fork deformity, but is a sign as follows: In health the styloid process of the radius descends lower than that of the ulna. When fracture of the lower end of the radius occurs, the landmarks are changed; the styloid process of the radius ascends to the level of that of the ulna. We would like to say, in this regard, that our honored teacher, the late Dr. Henry Hodgen Mudd, often called attention to this point in his lectures of fractures and dislocations, and considered it a sure sign of fracture of the lower end of the radius of the variety usually known as Colles'. This is, therefore, not a new point, but one which was emphasized for some years by Dr. Mudd, who was probably one of the leading authorities on fractures and dislocations, both of this country and of Europe.

G.

**THE MEDICAL SIDE OF WAR.**

*Treatment* (London) for March, 1900, contains an article from the pen of one of the surgeons of the Volunteer Army Corps of England, at present stationed with the army in South Africa. He discusses the subject in a general sense, and lays stress on the point that at the end of a long campaign it will invariably be found to be the case that the number of men killed in action is not nearly so great as the number of deaths from disease, independent of bullet wounds, etc. This is very true, and has always been found true in all campaigns of a military nature the world over. It was found painfully true at the time of the attempted mobilization and concentration of the volunteer army of this country during the Spanish-American war. Hard work, exposure, want of variety in food, impure water, the insanitation of camps (due, in the case of the American troops, to gross ignorance of the rules of sanitation by some of the volunteer officers—not medical officers entirely, however), are important factors in the production of the "camp diseases" which devastate the rank and file of an army. It is a fact that it is impossible to remedy some of these evils, but it is also a fact that with an efficient and well-equipped medical corps, fully fifty per cent. of these cases can be avoided. It seems to be a fact that the Royal Army Corps is doing good work along these lines, and that we will not hear of so much sickness in the British army as we would expect in view of the fact that so large a body of men are maneuvering in South Africa. The fatalities from disease in this army will be watched with interest by all those interested in matters of this kind.

**"THE MAN WITH THE HOE"—AND HIS PROTEST.**

Millet's famous painting entitled "The Man With the Hoe," and Edwin Markham's equally famous poem, which was inspired by this picture, have formed a subject which has been much discussed in this land and on



the Continent. The picture represents a son of the sod, a man apparently without hope or ambition in life, for he is depicted as a mere plow-horse, a clod, a semblance of a man, and that is all. It is symbolic of the peasantry of France as it was, as it is now, and as it will probably remain for some time to come. Edwin Markham has right well given the thoughts of the poet as he looks on this picture, and truly says that the man with the hoe, as represented in Millet's masterpiece, is a "slave, a brother to the ox, a thing that grieves not and that never hopes." It is truly the peasant of France, he who was goaded on by centuries of taxation and toil to rise up against "Louis Capet" and strike his head from his shoulders, together with the head of the "Austrian woman," in the Reign of Terror.

An answer to Markham's poem, entitled "The Hoeman's Protest," by T. Berry Smith, appears in the *St. Louis Mirror* for March 29, 1900. It is a protest against the idea contained in Millet's painting, and in Markham's poem, that the man with the hoe is such a creature of the earth, such a clod-hopper and "brother to the ox." It seems to us that "The Hoeman's Protest" is untimely. In that poem Mr. Smith has entered a formal protest against the holding up of the farmer to the light in the way that Millet has done, and comparing him to a lower animal. Mr. Smith is mistaken. Millet never intended to symbolize the *American* farmer in his painting, nor did Mr. Markham attempt to describe that individual in poetical language. The French peasant was the subject of the picture and poem, not the American farmer. "The Man With the Hoe" in our land is the element in our social fabric, than whom there is none grander. It is he who furnishes us with our statesmen, our patriots, our professional men. The American farmer is the most potent factor that we know of in this country. To imagine for a moment that the man with the hoe of Millet or Markham represents, or attempts to represent, that sturdy bulwark of Americanism, that exponent of all that is manly—the American farmer—is the height of folly. As we see it, Mr. Smith has "missed the mark." "The Man With the Hoe" is the French peasant, and not the American farmer.

#### ANTITETANIC SERUM IN THE TREATMENT OF A CASE OF ACUTE TRAUMATIC TETANUS.

David McVail reports, in an article published elsewhere in the *JOURNAL*, an interesting case illustrating the treatment of acute traumatic tetanus by the use of the antitetanic serum. The case occurred in this way: While in a drunken state, the patient struck his head against a piece of wood, and inflicted a scalp wound which showed signs of infection in the course of a day. Symptoms of tetanus developed, and he was given injections of the antitoxin of tetanus. Relief followed, after the injection of forty cubic centimeters in two doses. Up to the time of the second injection the spasms increased, but after that they steadily declined, and the patient improved to such a degree that he was able to get out of bed. At this time, an erythematous eruption appeared around the site of the third injection, and it spread all over the groin (the site of injection). After that, a rash of an entirely different nature appeared on the face, knees, chest, back and arms and hands.

The patient fell into a comatose state, from which he never recovered. He died on the nineteenth day after the injury had been received. The only post-mortem finding of importance was a congestion of the posterior part of the cord. Nissl staining of the cord revealed nothing pathologic.

This case is of decided interest, for it is one of the many in which the antitetanic serum was used with any success at all. While recovery did not ensue, the history of the case shows that improvement of a decided nature did really follow upon the administration of the serum. In the case which the writer has used the antitetanic serum, no results at all were achieved. This observation is in accord with that of numerous other American writers. It is gratifying to know that there may be something in the antitoxin treatment of tetanus, for the results in the past have been discouraging.

### CONSULTANT SURGEONS IN SOUTH AFRICA.

The example of England might well be emulated by this country as regards the hiring of consultant surgeons to go with the field force in the army in South Africa. England has spared no expense in giving her soldiers the best of consulting skill in the shape of sending her best civil surgeons to the front to help the regular medical corps in their operative work at the field and base hospital. Sir William McCormac and Frederick Treves are with the army in South Africa, and the wounded are receiving the immense benefit of their superior skill and experience. It is true that the regular medical corps of the army has in its personnel many brilliant and efficient surgeons, but it is also recognized by the authorities that the presence and help of such men as McCormac and Treves cannot but serve to look after the best interests of Britain's wounded and maimed soldiery.

Although it is announced that several of the eminent consultant surgeons recently or at present engaged in South Africa are either on their way home or are about to start home, there appears to be no lack of others willing to take their place. It is announced that Sir Thomas Neghton Fitzgerald, F. R. C. S. I., the senior surgeon to the Melbourne Hospital, is about to proceed to South Africa for a period of three months. Professor John Chiene, the popular professor of surgery in the University of Edinburgh, is also leaving shortly as senior surgeon to the Scottish Hospital, and will receive a hearty welcome from the large number of his old students at present in practice in South Africa. There are more old students of Edinburgh than of any other school engaged in general practice in that country.

### "BIBLIOGRAPHIA MEDICA."

The *Bibliographia Medica* is the title of a new publication which hails from Paris. It is a journal which will take the place of the American *Index Medicus*, which was discontinued some six months ago. It is well arranged, and will surely be of great use for all medical writers the world over. It is to be hoped that it will be financially as well as morally supported by the profession, for it deserves this support as much or even more than any other publication made for the doctor. The journal is under the



direction of MM. Charles Potain and Charles Richet, both well-known men in medicine and both members of the Faculty of Medicine of Paris. That it is, therefore, well directed, goes without saying. It only remains for the profession to do the rest.

### NORMAL PROPHYLACTIC APPENDECTOMY.

The weight of opinion on the part of American surgeons seems to forever put a quietus on the theory of the performance of appendectomy on infants as a prophylactic measure against appendicitis, according to the statements of leading American surgeons in the *Medical Review* of St. Louis. With one or two exceptions, all agree that appendectomy in infants as a prophylactic measure is the height of folly and of poor surgery. It is foolish to expose human beings to the dangers of a surgical operation when there is but one chance in fifty that these individuals will be the subjects of appendicitis later on in life. The consequences of this operation, sepsis, hernia, etc., are not worth the risk, moreover. We can hardly call the idea Utopian; it is superbly ridiculous.

### THE FILTRATION QUESTION IN ST. LOUIS.

During the past six months the question of filtration of the water supply of the city of St. Louis has been freely discussed, and all sensible-minded citizens seem to have become a unit in voicing the sentiment "that we ought to have clear water." The question has assumed graver proportions inasmuch as we are now probably drinking the sewage of the city of Chicago, coming to us *via* the recently opened "ship canal"—the Chicago drainage canal. With the end in view of establishing a filtration plant for the city of St. Louis, an organization was perfected called the "Citizens' Committee," composed of representatives from all scientific and commercial circles of the city. Through the impetus given to this movement by this committee, a bill was drafted looking toward the appropriation of the sum of \$50,000 for experimental preliminary work for the purpose of determining just what is the proper and best way of filtering the conglomeration of mud, clay, sewage, etc., now known to us as "St. Louis drinking water."

This bill was favorably acted on by the City Council, and was then duly referred to the House of Delegates for action. An opportunity was given all those interested in the passage of this bill to speak on the subject before the committee of the House appointed to recommend or reject the bill, as they saw fit. One of the most representative gatherings that ever assembled in behalf of any bill ever brought before any executive official body in this city met in the committee rooms on the 3d inst. Engineers, representative commercial men, public health officials, representatives from the leading scientific organizations, and other public and lay speakers united in recommending the passage of the bill. But one dissenting voice was heard, and that voice, parliamentarily speaking, "was out of order." The voice referred to was that of representatives from the Meramec river "junta," a clique of men who favor the use of the water from that source as a substitute for filtered Mississippi water. One of their representatives told, in eloquent ante-bellum oratory, of the magnificent advantages which

would accrue to this city if Meramec river water were used. He waxed quite warm in telling us that the water "came forth from the bowels (?) of the earth, purified in nature's laboratory, clear as crystal, and, withal, germ-free." He neglected to add that 135,000 bacteria to the cubic centimeter had been found in this water—a justification of the statement that the water came forth from the "bowels" of the earth at Meramec Springs. This speaker also told right eloquently how he had spent all his days by the side of this babbling brook, how he had hunted there, and how *he had bathed* there. Whereupon one of our witty and talented St. Louis clergymen said: "If —— had ever bathed in that water, he (the minister) never wanted to drink a drop of it."

The committee took up the question, and have not yet reported on it.

And now comes the most interesting part in the whole story. On Thursday, April 5, 1900, appeared an article in the St. Louis *Mirror* under this heading: "Is There a Filter Job?—Suspicious Course of the Board of Public Improvements." It was written over the signature of the editor of the paper. This self-same editor recently wrote an article in his paper criticising the health authorities for alarming the people needlessly (?) over the probable pollution of St. Louis drinking water by Chicago sewage, saying that if strangers heard that our drinking water was bad they would not patronize our future great World's Fair of 1903. Forsooth, this is a strange argument. Simply because it is a bad commercial advertisement for the city, the fact that the water is polluted should be concealed, and that means for purifying it ought not to be agitated, and the inhabitants of this now prosperous city thereby are to be exposed to the dangers of a typhoid epidemic, when they have the power to purify the water by filtration! Verily, philosophic and all-wise editor, your arguments are strange and unseemly. Your logic is bad.

And now for the latest bit of unscientific information vouchsafed to us through the columns of *The Mirror*. For a more misleading jumble of supposed facts, for a more ignorant exposition of the principles underlying the problem of purification of urban water supplies, and for a more horrible attempt to garble statements and to twist fancy into fact, the reader may look the world over and never see the equal of that famous article that appeared in *The Mirror* of April 5, 1900. In the first place, it is said that in the course of the filtration experiments contemplated in the passage of this bill, but one filter is to be used, and that one "the filter owned by the jobbers." How absurd! Every filtration device used for purifying water supplies is to be used in the course of these experiments, and from the sum total of the results from all, a filter is to be recommended which will best fulfill the demands necessary for the proper treatment of this mixed river water. So we can dispose of that erroneous statement. The other flaws in the article can be seen in the following, *The Mirror's* remarks being on the left side, and our refutations on the right:

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"There is a filter job."

Would such a gathering of representative citizens publicly voice their views and wishes if this were true?

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Chemical filtration implies unnatural, devitalized water. Such water is not good to drink.

It has been shown by experiments made at Cincinnati that the filtered product of the so-called "chemical system" differs in chemical composition only in that "carbonic acid is set free, and the carbonates of lime and magnesia are converted into the form of the soluble sulphates of these bases in quantities substantially proportional to the amount of sulphate of alumina applied to the water." \* \* \* \* "It can be positively stated, that in the quantities required for the treatment of this water, they are not injurious to health, and cannot be regarded as seriously objectionable." (1)

The cost of filtration will be enormous, because almost half the water filtered will have to be used to cleanse the filter.

"—percentage of filtered water required for washing would range from four to nine and average about five per cent." (2)

But the latest official report on the Cincinnati experiments says that the germs were not destroyed.

"On the basis of annual averages \* \* \* \* the removal would amount to more than 99 per cent. of the river water bacteria." (3)

"Why will not the Board of Public Improvements hear any one who submits other propositions for purifying the water supply?"

We are dealing *now* with the bill as to the treatment of the water supply of this city, with our present system of water-works, *not* with the problem of changing the entire water-works of the city. Did the editor of *The Mirror* stop to consider for one moment the probable cost of changing the water-works from the Chain of Rocks to the Meramec Spring? He should do so, since he speaks so economically of the great cost it would be to the city in operating a large filtration plant.

REFERENCES TO CINCINNATI REPORT.—1. Page 390, second line from bottom.  
2. Page 369, line fifteen from the top.  
3. Page 396, eighth line from the bottom.

Even a layman should know more of the subject than the editor of *The Mirror* seems to know about this subject. Perhaps there's a method in his madness—who knows? Perhaps it's the same kind of madness that the editor alleges has seized hold of the Board of Public Improvements. He truly says, "Let's have all the facts about the water question," as he terminates his article. Would that he had thought of that before he began to write! Perchance he might then have made one correct statement in his denunciation of the filtration bill.

We go into print on this subject for these reasons: First, to set the public aright on this subject; second, to give the editor of *The Mirror* an opportunity to gain some valuable information on this subject; third, because we think the imputation cast on the Board of Public Improvements and the representative citizens interested in the passage of this bill should not be allowed to go unchallenged; fourth, because we desire to place ourselves on record as favoring filtration of our water, for the reasons stated above; and lastly, because *we want facts* brought to light—we want more light on the subject, and we have attempted in our modest way to throw some light, fearing not that the light of our knowledge will be eclipsed by the rays of that lesser satellite whom we think we have shown to be but an "ignis fatuus," as it were, a poor luminary, and one from which the public will surely fail to obtain that insight into the subject which the editor of *The Mirror* would fain have them obtain.

## ORIGINAL ARTICLES.

### PRESIDENT'S ADDRESS BEFORE THE TRI-STATE MEDICAL SOCIETY AT ST. LOUIS, MISSOURI, APRIL 4, 1900.

BY O. BEVERLY CAMPBELL, A. M., M. D., of St. Joseph, Missouri.

I WISH to thank the society for the high honor conferred upon me in electing me your president for one year. This society numbers among its members very many of the most distinguished physicians and surgeons in the great middle West, citizens of the States of Illinois, Iowa and Missouri. You have honored Missouri's great metropolis, the city of St. Louis, by selecting it for the present meeting, and, as Missourians, we are indeed glad to entertain this distinguished body of scientific gentlemen within our borders.

As the nineteenth century is drawing to a close, and we are now preparing to bid it adieu, to relegate it to history, it seems quite fitting, as president of your society, that I should make mention somewhat of the present status of our civilization and the part taken by the science of medicine, and expatiate somewhat concerning the problems that confront the birth of the new—the twentieth century.

The nineteenth century will take its place in history as the epoch of medical advancement. At the birth of the century, dogma in the theory of disease, empiricism in therapeutics, barbaric surgical feats with patients strapped to the operating table, their cries for mercy touching the heart of man, were the conditions which confronted us.

But out of the chaos of darkness light at last appeared; to no one man, nor to a host of men, is the credit due, but to the evolution of the human intellect. It is true that every age has had its master minds, and to them the world has ever bowed in humble adoration, for they have been the beacon-lights that directed the advances of their age.

All science has been fragmentary in its development; the science of medicine is not an exception; the discovery of one truth has led to and made it possible for the discovery of another. Thus, step by step, fragment by fragment, our science has developed, old discoveries have been perfected and new ones added until now, at the close of the nineteenth century, the civilized world has reached a degree of development never before attained. Every advance has met with opposition more or less formidable, not only from persons whose interests it seemingly diametrically opposed, but quite often by co-workers along the same lines, whom it would seem were not ready to receive it. The struggle of knowledge through the past centuries was, indeed, pitiful, an uneven struggle: a few intellectual giants of their age, opposed by the great masses, and they frequently paid the penalty of their genius by death at the stake.

The beginning of the nineteenth century marked the dawn of a new civilization; the civilized world seemed quite ready to receive it; the accumulated knowledge of ages was systematized and quite generally accepted,



and human laws had reached such a stage of advancement in nearly all civilized countries, that the inalienable rights of man were recognized and protected.

So that in general knowledge discoveries have come thick and fast as a result of the evolution of the brain of man, and the unrestricted right to use his intellect.

Religion and medicine have become more widely separated, which fact is the natural outcome of intellectual development; and some credit may be given the theologian as well as the scientist, for theology has advanced some since ministers of the gospel have availed themselves of the privilege of thinking. Indeed, the intelligence of the age, regardless of creed or scism, has opened their eyes to reason, and as if with a single voice has relegated many of the religious dogmas of our fathers to oblivion. It would be quite difficult, at the close of this age, for the average person to believe the death of the innocent child to be the act of the all-wise Creator, for the purpose of subduing the hearts of its parents, and the doctor of to-day must not find solace for his defeat in any such superstitious reasoning. The intelligence of the age will not allow us to fasten the responsibility of our failures upon God; could such failures be rightfully attributed to the will of the Creator, then certainly there would be no need for progression in medicine.

The history of civilized nations distinctly shows that as a nation or people advances in knowledge, they from age to age continue to place a higher estimate upon human life and human happiness, deprecating more and more human suffering. One of the most gratifying advances in human progress noted during this period, and in my opinion the most positive proof of a rapidly advancing civilization, is the abolition of torture and the adoption of more humane modes of punishment for criminals. The history of human advancement previous to the nineteenth century, although closely associated with the religions of the times, is a history which causes the intelligence of this age to shudder at the needless sacrifice of human life and the outrageous methods of inflicting human torture.

Nearly a year ago I visited London Tower, saw the remains of the historic moat which once surrounded it, stood at Traitor's Gate and saw the Thames, upon whose placid waters the royal prisoners of ages had been transported and landed at the gate; saw the Bloody Tower where the little princes had been imprisoned and murdered by their uncle, Richard III., and the room where their bones, ages afterwards, were found. Saw the spot where Anne Boleyn was beheaded; saw the magnificent old armors of England's great warriors for centuries past; saw their antiquated cannon and small arms; saw the prison cells where illustrious young noblemen and women had been confined without cause, where they were doomed to remain till madness and death closed the scene. How very much of England's history had been enacted here for many centuries past; real drama, kings, queens, and the noblest blood of England the actors; tragedy, torture, and all that semi-barbarians in their viciousness could conceive of, the nature of the real acts. As I at last stood without the grounds, gazing upon that well-preserved monument of human barbarism, and thought of the human anguish therein suffered, I concluded that the intelligence of England of to-day should demand that its walls, from turret

to foundation stones, should be blown to atoms, and forever efface from history the last sign that might cause the visitor to revert to the horrible barbarism, injustice and cruelty therein enacted, and a part of her past history.

What may be ascribed as the cause of our transition from semi-barbarism to the high plane of civilization we now occupy? It is the evolution of the brain of man. Associated with knowledge is justice and virtue, and their many attributes. To-day law and order prevails in all civilized countries, and justice is really aimed at; the weak in mind and body are cared for by the strong, and the tyranny of monarchs and rulers is not sanctioned or tolerated. Human progress is uprooting superstitions practices; right and justice, backed by human reason, are opposing might, and we can rightfully claim that the nineteenth century, as compared with past centuries, has developed a new civilization.

The development of knowledge has been general; every branch of science has taken part in the evolution; the science of medicine has kept pace with her sister sciences, and has met the demands of the century. Human progress through the entire century has been rapid and continuous; and yet the echo of mythology may still be heard. Christian Science and osteopathy are living representatives of the Congo conjurer, under a different *nom de plume*, to meet the exigencies of a more advanced civilization. Such monstrosities create but a ripple upon the waves of human progress, and serve but to remind us of the credulity and superstition of the past. Science is not affected by such blasted germs; germs which were born out of time, the offspring of fanaticism and degeneration. To-day, as never before, the rights of man, woman, and child are respected.

The power of monarchs and rulers is absolute in but few civilized countries, and one need but to revert to history to recognize how such conditions affect the welfare of humanity and human progression. The advancement in the science of medicine has been more marked during the last half of the century, and especially so during the last two decades. This rapid advancement has been accomplished largely through improved methods of teaching, laboratory facilities, experiments upon the lower animals, and the systematizing of the work. The advancement of kindred sciences has aided very much. Improvement in means of travel and communication have been substantial aids; this applies to both land and sea. The entire civilized world is now in communication, so that a discovery is but a day old when the scientific world is made aware of it. The grand total of medical knowledge may be said to be axiomatic, and the science of medicine can now be rightfully classed as a true science, although not as yet complete. The knowledge of the etiology of disease has indeed assumed gratifying proportions, and in very many instances has passed beyond a stage of experimentation. Pathology has made rapid strides, and its study, associated with etiology, is conducive of definite conclusions.

Our means of diagnosis are now quite definite, and the vast majority of diseases can be positively identified.

The x-ray and the microscope are instruments of precision, and aid us materially in reaching definite conclusions.

Therapeutic measures have so radically changed that they bear but little resemblance to those of the eighteenth century.



Serum therapy, as a curative and immunizing agent, is strictly a great advance, and is practically along new lines; indeed, the advances in and the application of our knowledge of bacteriology has revolutionized medicine and surgery.

Antitoxin has robbed diphtheria of its horrors and saved the lives of countless thousands.

Asepsis obtained by sterilization and the use of antiseptics is the great advance in surgery.

Thus the birth of the twentieth century will find the science of medicine a true science, in the possession of definite knowledge capable of preventing and curing disease.

The standard of medical education will be raised and the methods of teaching will be improved upon, so that medical progression may be confidently anticipated.

The age will demand intelligence in her doctors, and there will be few places for the mediocre to fill.

The responsibility of the physician of the coming century will, indeed, be great, for the demands of a rapidly advancing civilization will bespeak new discoveries, and will demand a perfect knowledge of our science.

It should be with a sense of genuine pride and satisfaction that we, as members of the noble profession of medicine, welcome the new century and present it with the great work performed in medicine during the present century.

The twentieth century will begin its work in medicine with very many of the difficulties which confronted the beginning of this century removed, and I predict continued advancement.

While the science of medicine is isolated to a great extent from the other sciences, still there must be some association, and human knowledge in general must keep pace to a certain degree.

The satisfaction of being a physician at the close of the nineteenth century should indeed be great, when we compare the present status of our attainments with those of the physician of the eighteenth century.

Indeed, the profession of medicine has done a great work for humanity during the nineteenth century, lessening human suffering, saving human life.

The coming intelligence of the twentieth century, it is to be hoped, will be so far advanced as to ignore charlatanism, faith healers, and "pathists," for they have been a blot upon the intelligence of this century.

May progression in medicine characterize the new century as it has the present, and may human intelligence wipe out the remaining superstitions of savagery, and may justice and right rule the world.

#### PROFESSOR TO STUDENT.

Finding a case of acute retroflexion,  
Would you perform an abdominal section?  
Would you suggest suprapubic lithotomy,  
Or insist, like a fool, in performing colotomy?  
Would you, for colic, give sugar of lead?  
Would you trephine for a cold in the head?  
Would you for abscess of tonsil excise it?  
Having heard it suggested, now would you advise it?  
Would you give iron in cases of stricture?

And what is the dose you'd advise of the mixture?  
Would you think it well to suggest homœœa  
To patient who suffers from bad gonorrhœa?  
Is massage a suitable treatment for gleet?  
Or would you for corns remove both the feet?  
Prescribe an emetic in bad urethritis,  
Or give Keating's powder in case of phlebitis?  
Advise an eye-opener in cases of ptosis,  
Or cut off a leg to relieve ankylosis? —A. Duke.

## THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM AT THE MT. SINAI HOSPITAL, NEW YORK CITY.<sup>1</sup>

BY L. A. S. BODINE, M. D., of New York City,  
House Physician, Mt. Sinai Hospital.

IN THE following brief summary of the treatment employed for rheumatic cases in the Mt. Sinai Hospital, I have tried to adhere as closely as possible to rheumatism itself, and to make no mention of treatment used in any of the numerous rheumatic complications. In acute articular rheumatism, after a thorough clearing out of the alimentary canal with calomel and salts, our patients are at first put on sodium salicylate, from fifteen to twenty grains every four hours, with very frequently the addition of bicarbonate of sodium, the latter drug being given to render the urine alkaline and to maintain its alkalinity during the course of progress of the disease. Fluid diet, rest in bed, with sponge baths for hyperpyrexia at a temperature of from 95° to 75° F., depending upon the patient's condition, constitute the initial treatment of these cases. If, for any reason, the salicylates are not well borne, owing to *tinnitus aurium*, eruptions or gastric disturbances, either the oil of wintergreen or the citrate or acetate of potassium is used as a substitute. In nephritic subjects neither the oil of wintergreen nor the salicylates are given. The bowels are kept open by cathartics, preferably salines and enemata. Hyperidrosis is controlled by doses of belladonna or its alkaloid. To control or relieve pain, phenacetin, acetanilid, antipyrin, and codein are used sometimes, but rarely morphine. To induce sleep, trional, in combination with the bromide of sodium, is a frequent remedy. Sometimes chloral, chloralose, cannabis indica, or even morphine itself is given. The diet during the acute stage consists of fluids only. Milk, strained soups, clam-broth, cocoa, egg-noggs, milk-shakes, ice-cream, lemon and orangeades satisfy the patient much better than does a pure milk diet, and hence he takes his nourishment more willingly and frequently. Coffee in small quantities is also given, but if often taken is apt to cause insomnia. Nitrogenous food is avoided as much as possible, and large quantities of water are taken daily. The salicylates are always given well diluted, and never, if it can be avoided, on an empty stomach.

Local applications of oleum gaultheriæ, salicylate of menthol, or guaiacol painted over the inflamed joints, and rubber protective bandaged firmly over them, seem to afford great relief to the majority of patients, and also to exert a favorable influence on the inflammation. When a joint involvement passes the ordinary inflammatory stage and there is a commencing effusion, local applications of tincture of iodine, uniform pressure by bandaging, cold in the form of ice-bags, immobilization, and elevation of the joint, if possible, are successfully used to abort and inhibit the exudation. In spite of treatment the effusion may persist, and with it some elevation of temperature. In these cases the joint itself is aspirated in order to determine the character of the exudate. If pus or purulent serum is

<sup>1</sup> Read before the Section on Practice of Medicine, New York Academy of Medicine, March 20, 1900.



found, the case becomes a surgical one, and is treated accordingly. In those cases in which the effused fluid is absorbed and there is a disappearance of all of the constitutional symptoms, there may still remain pain on motion, some periarticular thickening, and more or less ankylosis. In these cases local treatment seems to give the best results, and is the only treatment used, except the internal administration of the iodide of potassium. For local treatment we use daily baths of hot air at a temperature of 200° F. to 400° F. for from twenty minutes to a half hour duration, hot salt-packs, hot sand-bags, local applications of iodine, galvanism, cataphoresis, passive motion, and massage. In the majority of instances iodide of potassium internally, combined with passive motion, massage and the hot-air bath have given the best results. What gives good results in one case does not always do so in another; so we may have to try a number of remedies before finding one suited to the case in question.

Before the convalescent stage, particularly if the attack has lasted for any length of time, tonic treatment is instituted, most frequently in the form of iron, strychnine, and quinine. The salicylate of iron is another remedy often employed. After the temperature has remained at the normal point for from forty-eight to seventy-two hours the diet consists of eggs, bread, potatoes, toast, and fresh vegetables, but no meats. In some cases in which the fever persists and the patient seems to be suffering from malnutrition, it may not only be advisable, but necessary, to enforce such a diet at an early date. Meats are withheld until convalescence is well established, and are first given in the form of chicken or turkey. Absolute rest for all cases of pyrexia is required, and all patients are kept in bed for from two to five days after their temperatures have reached the normal point.

Out of thirty-eight cases of acute articular rheumatism treated in this hospital during the past year, twenty-nine left the hospital cured, and nine were discharged improved. Of these thirty-eight patients all but three had had salicylic acid in some form or other.

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**Wholesale Firms and Tinned Meats.**—It is evident that the law requires strengthening, as far as the responsibility of wholesale firms are concerned, in respect of the disposal of tinned goods which have become damaged and unfit for human consumption. Since our last issue large seizures have been made of several kinds of tinned goods, either unsound or in a state of decomposition, and heavy fines inflicted. In one of the cases above alluded to, a witness from a wholesale firm admitted, in his evidence, that he let the guilty person have the tins for nothing, on the understanding that the contents would be used for the feeding of pigs, whereas, in reality, they were destined for sale to the community, with the danger therefrom of extensive poisoning. It should be made compulsory for wholesale firms, who find that any of their stock has gone wrong, to destroy the same without the power of selling, or to hand it over to the public authorities for the purpose of destruction.—*Therapist*.

## A FEW PRACTICAL POINTS WHICH WILL PREVENT TROUBLESOME COMPLICATIONS IN FRACTURES OF THE ANKLE AND ELBOW.<sup>1</sup>

BY A. J. OCHSNER, M. D., of Chicago, Illinois.

**T**HE special points brought out by this paper refer to the painful condition of the ankle-joint in many cases of Pott's fractures, which are ascribed to the fact that these fractures are practically always dressed with the foot in the talipes equinus position. This is true whether fracture-boxes, lateral splints or plaster of paris is used for the dressing of the fracture.

In walking, the patient must elevate his body beyond the normal to the extent of difference between the length of the extremity with the foot at a right angle with the leg, and the foot in an angle greater than a right angle sufficient to produce the amount of talipes equinus present in any given case. This necessarily causes lameness. This can be obviated by applying the plaster of paris dressing with the foot at less than a right angle with the leg. By flexing the knee the distance between the upper and lower attachment of the gastrocnemius muscle is shortened, which allows the foot to be placed at less than a right angle with the leg. If this is done in cases of fracture of the ankle, the other well-known precautions, which are important in treating these fractures, being also considered, there is seldom any lameness two months after the fracture has occurred.

In painful ankles, after Pott's fracture, the author advises anesthetizing the patient, forcing the foot to less than a right angle with the leg, the knee again being flexed, and placing the extremity in a plaster of paris cast from a point just below the knee to the tips of the toes, and permitting the patient to walk. After a period of six weeks the cast can be removed, and the patient can walk without pain.

In treating fractures of the elbow, in children especially, the stiffness in the joint is overcome by permitting the child to play with a rather heavy wheelbarrow. Practically every child is willing to do this cheerfully, and as it is impossible to shove a wheelbarrow except by doing an equal amount of work with each hand, the stiff joint will be loosened with great readiness in this manner, the plan being much more effective than any passive motion which the surgeon may institute.

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**Public Prescribing.**—"F. R. C. S.," in a letter to the *Lancet* of the 24th ult., animadverts very strongly upon, and entirely deprecates, the action of certain papers in devoting whole pages to the specious advertisements of particular remedies, with pictures of the "last cure," stating that the same are "insults to the profession," and suggesting the boycotting of those papers which lend themselves to this offensive practice of public prescribing. We fear the protest will be useless. The greed for the loaves and fishes and the worship of mammon will far outweigh any considerations as to the gulling of the British public or of the gross inaccuracies of the statements published.—*Exchange*.

<sup>1</sup> Author's abstract of paper read before Tri-State Medical Society, St. Louis, April 3d.



## THE DIAGNOSIS OF PNEUMONIA, WITH REPORT OF UNUSUAL CASES.

BY LOUIS H. BEHRENS, M. D., of St. Louis,

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THE term pneumonia is used to express such a variety of conditions, the classification so large, that in this paper I find it necessary to limit myself to the forms mostly confronting us at this time. I must necessarily limit my part in the discussion of so important a disease or infection to the more common forms or types, with a brief comparison of conditions existing in other diseases that may be mistaken for physical signs and symptoms of pneumonia, and vice versa.

I recently reported two cases, that I considered interesting, to the City Hospital Society, proving the difficulty of making an immediate diagnosis of pneumonia as being positive.

CASE 1.—Was age forty-two, good history, had always enjoyed best of health, and had no bad habits. Was taken suddenly, about 8 P. M., with severe angina pectoris; with all symptoms and signs pointing to its being such; after examination of patient during periods that he felt free from pain, I came to the conclusion that his condition must be an angina of true type. After remaining some two hours, I left him feeling easy and talking about the hard work he contemplated doing next day. I had been gone but thirty minutes when I was again summoned, and found pains of like nature; I remained all night, administering such sedatives as would ease him, and the next evening at four I again went over chest carefully, as a temperature was now present, following a chill which he had about 9 A. M. I found nothing, however. About 8:30 P. M. another physician saw the case with me, and after we had examined chest faithfully, we found what appeared as a crepitant râle, right side, posteriorly, at the angle of the scapula—small area. The following day the left lower lobe took up the inflammation, the right passing on to a rapid resolution within three days; the left lung going through the pneumonic gradations in unusual form, irregular, nevertheless croupous pneumonia, which had in its congestive period all signs and symptoms of angina pectoris.

I will say also that patient did not once cough until resolution began in left lung, about eleventh day.

CASE 2.—Age fifty-two, hard drinker, irregular habits; had been drunk several days when attack came on, and also had a poor family history; was taken about three o'clock one Sunday evening with terrific pains along left side over kidney, and extending down region of ureter (not to testicle). A diagnosis of probable renal calculi was made; next morning all pains centered in stomach; he vomited, blood was noticed in vomitus, and all symptoms of acute gastritis were present, and so the diagnosis was changed. I was called in two days later. I heard the history and was satisfied as to the diagnosis of attending doctor. As the patient had not been examined over chest, we did so, and found left lobe posteriorly partly involved and crepitant râles numerous. He ran a course of about six weeks, and with a temperature not at any time over 100.5°, but otherwise

## CHART FOR DIFFERENTIAL DIAGNOSIS.

CROUPOUS, FIRST STAGE.	SECOND STAGE	THIRD STAGE	CATARRHAL PNEUMONIA.	LA GRIPE PNEUMONIA.	PLEURITIS.	EDEMA OF LUNG.	ACUTE PHTHISIS PULM.
<b>INSPECTION.</b> Deficient movement affected and hitch upon deep respiratory effort.	Deficient movement. Vocal fremitus markedly increased.	Deficient movement until end of stage.	Respiratory effort labored and accelerated.	Respiration may or may not be accelerated, irregular, between pulse, respiration and temperature.	<b>FIRST STAGE.</b> Hitch over affected side.  <b>SECOND STAGE.</b> With effusion. No hitch, but lagging obliteration intercostal spaces.	Usually edema elsewhere; usually both lungs involved.	<b>INSPIRATION.</b> Labored, shallow breathing
<b>PALPATION.</b> Vocal fremitus may or may not be increased.	Dullness markedly increased and resistance over solidified area.	Same as second stage.	Vocal fremitus increased in areas or may be hardly perceptibly increased.	Vocal fremitus increased.	<b>FIRST S.</b> Friction rub may be felt.  <b>SECOND S.</b> Absent fremitus. Transposition of heart. Skoda's resonance at fluid lung contact. Flatness in second stage.	Vocal fremitus depends on amount of edema.	<b>PERCUSSION.</b> Dullness depending on solidified areas. Amphoric over cavities. Cracked pot over cavities.
<b>PERCUSSION.</b> May be slightly dull, or at times of a tympanic quality.	<b>Bronchial</b> breathing, high pitch bronchophony. At times pectoriloquy, except where bronchi are occluded.	Dullness continues. Resistance less towards end of stage.	Dullness in patches over both lungs; healthy tissue intervening gives a tympanitic note at times.	Flatness in irregular areas, "usually marked in middle and upper lobes," (Glasgow.) Deadened percussion note over other parts of lung.	<b>FIRST.</b> Rale or sound often resembles the crepitant.  <b>SECOND.</b> Respiratory sounds enfeebled or absent; rales disappear.	Slightly impaired dullness.	
<b>AUSCULTATION.</b> Vesicular murmur and crepitant rale.		Breathing broncho-vesicular. Rales redux appear. Gradual return to normal.	Sibilant and sonorous rales. Vesiculo-bronchial breathing (in early stage) changing to moist rales, subcrepitant.	Bronchial respiration over dull area, harsh, high pitched inspiration; prolonged expiration, often attendant wheezing.	If effusion extends fairly high, a tympanic noise heard between fluid and lung.	Small moist rales (subcrepitant) and large bubbling rales.	<b>AUSCULTATION.</b> Vesiculo-bronchial breathing associated with large and small rales (moist). Later, cavernous breathing, gurgling, amphoric breathing.



all signs and symptoms about as is found with croupous pneumonia at the beginning and tending towards catarrhal.

Palier, in the *New York Medical Journal*, reports having had a case where all signs pointed toward appendicitis. Case was operated upon; appendix healthy; chest was examined, and patch of consolidation found in right lower lobe several hours after operation.

And so we have case after case of pneumonia which, through some sign or symptom more prominent in some other organ or region, the small area involved, is lost sight of at the time, and later examination reveals the true state of affairs.

During September I was attending a little miss, age nine, for typhoid fever. My first call was some three days after parents had noted that there existed any indication of disease. Temperature was taken—found to be  $104^{\circ}$ , pulse 120, respiration 32. It being about the season of typhoid, I sent blood to the health department, and the Widal test was verified. The case was one typically typhoid in many of its symptoms. At end of first week bronchitis was found, and at end of second week, just at the stationary period, physical exploration revealed respiration 42, numerous moist and dry râles over chest, marked posteriorly; pulse 130, weak and compressible; cough was at times severe, and expectoration difficult, and again both were less trying. This continued for about four weeks, during which time patient suffered a relapse of short duration of the typhoid. It required some three months before the patient progressed at all fairly.

In all typhoids, at least in the majority of cases, bronchitis exists more or less severe. Just where bronchitis ends and capillary bronchitis or lobular pneumonia begins, I contend there is no sharp line of demarcation; but in justice to the patient I regarded pneumonic precautions proper, and a diagnosis of catarrhal pneumonia not improper with the signs as given. Besides, it is all-important to examine chest thoroughly in all prolonged fevers. The lungs in fifty per cent. of the cases give a clue to existing abnormal conditions that might arise in their course.

Early in December I saw a case in consultation with Dr. S., the patient being a physician, and, like a doctor, very careless. His history was as follows:

Ten years ago his sputum contained tubercle bacilli; just from what area the bacilli came was never satisfactorily outlined. He had, however, kept up in weight, and health was perfect, though fifty-three years old, and doing an extensive country practice; about middle of November or later, began to ache all over, and had pains over chest and back of neck, and peculiar type of dull headache; nasal secretion acrid; after several days he rallied fairly well, and felt about "half well," as he described it; during this siege a slight bronchitis began; after remaining indoors several days he selected a nasty, damp day to see several patients; during that night he had rigors, and had chest pains with an increase of temperature, and general pains and sleepless night; paroxysmal cough began; with much effort he spat up a ropy, tenacious sputum; later, blood-streaked sputum; the fever reached  $103.4^{\circ}$ , pulse 120, respirations were increased.

Within a few days fever had subsided; at times normal, then evening rise of one or two degrees, and occasionally four degrees; pulse varied 86 to 100; respirations changeable but increased, but no amelioration of chest

symptoms; they continued more severe, cough became harassing, frequent, blood in sputum. The wheezing that ensued with the respiratory effort plus the nervousness kept the patient awake most of the night.

I saw him some two weeks after the beginning of the attack, and found his condition as above described. The physical signs elicited were as follows: vocal fremitus increased over both lungs, more marked in areas, and especially so over region occupied by middle lobe, right side, anteriorly. Percussion sound was of a peculiar type—the resistance was greatly increased, lacked quality, a deadened note, not flat exactly, and not dull. In other areas a tympanitic resonance was obtained such as is obtained at times in the true catarrhal type.

Expiration was prolonged very markedly, inspiration was harsh, the former low in pitch; sonorous and sibilant râles were present in areas, and coarse subcrepitant râles heard in other localities. Over the area anteriorly, right side, bronchial respiration was heard. I prescribed the usual stimulating expectorants, diet and external massage with unguents medicated; ordered vapors. I saw him again ten days later (three weeks had about elapsed since beginning of attack). I found conditions altered in some parts only to be more severely inflamed in other regions of the lungs, and, all in all, no improvement, and much dissatisfaction and ill humor to contend with on his part. The doctor in attendance first recognized progress fully five weeks after beginning of attack, and as two months has nearly elapsed, patient is still at home indoors and just able to sit up. My diagnosis was la grippe followed by broncho-pneumonia of peculiar type, and a condition now styled as “la grippe pneumonia,” I think first recognized from a physical diagnosis standpoint by Dr. Wm. Glasgow, and described by him.

The histories that I have just read represent about the type of cases usually met with, viz.: croupous, catarrhal, and the peculiar variety of the later recognized to-day by some as la grippe pneumonia.

Perhaps in the majority of cases the physician is called to attend the patient for a so-styled severe cold in the chest, maybe in its incipency or of several days' duration and each day adding to its severity; or he may be under our care for one of the many diseases which have as a complication, pneumonia, viz.: typhoid fever, nephritis, acute articular rheumatism, or one of the exanthemata. It happens so often that we should be constantly on the alert, especially in children and old people, and not neglect duty too grossly with the middle-aged.

The history of chilliness or hard chill, some fever, high or low, general *malaise*, oppression over chest, patient just able to be about, or perhaps confined to his or her room, in bed, or barely able to be up with above symptoms more aggravated, onslaught sudden, localized lancinating or dull pain, cough with excruciating pain, is about as we expect to find our pneumonias beginning; and fortunately so it is, and with a physical exploration properly made a diagnosis is soon reached.

But, perchance, we are brought in contact with one unable to give a history, and signs point to many things, as it is a fact that in the old, cough, sputa, pain, high temperature is frequently absent, with physical signs of a terrific pneumonia existing. With the very young and children who are unable to tell us just what or where pain is, cough but no sputa,



with a hyperpyrexia, to the patient too young to assist us whatsoever, "baby is just awful sick," to the one who is just in the throes of some other condition with a beginning pneumonia as secondary, truly requires the diagnostic acumen of the physician; and of what import is history if we are unable to make a proper physical examination of the chest?

What conditions confront us mostly that have signs and symptoms in common and misleading—acute bronchitis, acute pleuritis, pericarditis, œdema of lungs, hypostatic congestion, phthisis pulmonalis. So with this comparison I have endeavored to bring out a few points of importance in differentiation.

A few points worth remembering in making a diagnosis in cases not typical:

1. Be in no hurry to pronounce a case pneumonia of special type unless you have examined patient thoroughly, both as regards objective and subjective symptoms.
2. Remember that no sharp line exists between the ending of a severe bronchitis and beginning of the capillary or catarrhal pneumonia.
3. Depend always on a physical examination as of most importance.
4. Children under six have, as a rule, capillary catarrhal pneumonia; six to sixteen, croupous or catarrhal; adults, lobar pneumonia.
5. Do not lose sight of chest exploration, if peculiarities arise in continued fevers.

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**The Boer Physic.**—The *Chemist and Druggist* publishes the following account of the pharmacy of the Boers: "The average Boers are good customers of the chemist because they take a good deal of medicine on account of their internal torpidity. This is due to their movements being slow and the eating of much doughy bread. The Boer is slow to change, and slowest, to say the least, in changing the kind of medicine which he uses. It is the same kind that his father and grandfather has used, and he says it is, therefore, good enough for him. All the packers of Dutch medicine advertise that their products are manufactured according to the 'original formulas' procured direct from Holland, and caution the people to be careful of what they buy in this way. The Boer does not use patent medicines. He begins his treatment by giving a good purge, and if that does not succeed in curing the disease, he goes through the entire list of medicines in the 'huis apoteek,' or family medicine chest. Most of the drugs in this chest are herbs and native preparations, the medicinal value of all of which being quite questionable.

"There are what is termed 'traveling chemists' in the land of the Boers, men who go from place to place, engage a room, advertise that they are in town, and proceed to sell their rubbish to the unfortunate Boers who may 'happen in.' These men are charlatans, and at one time an effort was made to prevent them from practicing their quackery, but the attempt fell through through want of support."

## THE TREATMENT OF ARM PRESENTATION.

BY DENSLOW LEWIS, M. D., of Chicago,

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of the Cook County Hospital.

THE general teaching in case of arm presentation is to turn and deliver. To-day, this advice needs modification. Version in such cases is sometimes impossible, and often injudicious. It is manifest its performance is inadvisable if the result be a rupture of the uterus. It may be added that its consideration is decidedly out of place unless there is a probability of delivering a living child that shall continue to live.

I have read in text-books about dragging a child through a conjugate of two inches or an inch and a half. Of course, the child was dead, and doubtless the accoucheur was a man of strength, possessed of patience and ingenuity. Nevertheless, such a practice is reprehensible to-day. If the medical attendant is alive to his responsibilities, he should examine every pregnant woman by the eighth month. It requires no special skill, no perfection of technique, no extended pelvimetry to determine if the antero-posterior diameter is constricted so that there will be an interference with the progress of labor. It is only necessary to introduce the finger in the vagina and to try to touch the promontory of the sacrum. If it cannot be felt, there is room enough for the passage of an average sized head. If it can be felt, the extent of constriction is easily observed and suitable provisions, can be made in advance for symphyseotomy or Cæsarean section.

An examination at the eighth month also permits the recognition of tumors and different abnormalities at a favorable time for their treatment. It permits the diagnosis of faulty presentations at a time when, by external version, they may be corrected, and, by the application of the Pinard bandage, an occiput-anterior presentation may often be maintained until the advent of labor.

Twenty-two years ago, when I began the practice of obstetrics, many women had so much false modesty that they refused to see their medical attendant until they were actually in labor. To-day they rarely object to a preliminary examination if its object is properly explained. The fault now is more often with the medical man himself. He fails to appreciate the necessity of such an examination, and for that reason we still see cases of arm presentation, only too often after injudicious, ineffectual and irrational attempts at delivery have seriously jeopardized the life of both mother and child.

When a hand protrudes from the vulva, or is felt in the vagina, we recognize which hand it is by noting the position of the thumb when we take hold of it, as in the act of shaking hands. We then know easily in which iliac fossa the head is to be found, and we can locate it, as well as the back, by abdominal palpation. Our first thought may be to replace the arm. This is unnecessary, nor is it often possible. It is better to tie a piece of tape around the wrist, which will serve to prevent extension of the arm if we deliver by the breech, or else will be of service in delivering the body should decapitation be practiced.

If the prolapse of the arm is recent, and the liquor amnii has not



drained away, it may be possible to place the woman on her side or in the knee-chest position and by means of bimanual manipulation, with one hand placed externally on the head, and one or two fingers of the other hand within the uterus, to turn gradually the child until the internal hand is able to grasp a foot and bring it down. I have never succeeded in this attempt, probably because most of my cases have been seen when the woman had been long in labor and when the shoulder was impacted to some extent. In some cases of placenta prævia, I have been able to turn the child by bipolar version, as recommended by Braxton Hicks, and occasionally I have delivered a living child. For that reason I mention this plan of procedure, although in most cases it will be necessary to introduce the hand within the uterus in order to seize a foot.

When the hand has pushed aside the head and entered the uterus, it is of the first importance to ascertain regarding the extent to which the uterus has closed down upon the child. Reynolds speaks of constriction rings which form from irregular contractions of an irritable uterus, and others recognize Bandl's ring. The important fact to remember is that when the arm protrudes and the shoulder becomes fixed or impacted, the upper portion of the uterine muscle continues to contract and grow thicker, whereas the lower uterine segment keeps stretching more and more and gets thinner. In this way is produced a ring, felt internally as a ridge, sharply defined and projecting inwards—often recognized externally, by abdominal palpation, as a furrow.

When this constriction is recognized we should be on our guard. If we persist in our attempt at version, suddenly this constricting ring will give way and the hand will return to the uterine cavity of its own accord. The lower uterine segment will have ruptured.

When the uterus is firmly contracted around the child, when the liquor amnii has drained away and the patient has been long in labor, it is important to know that even if the hand can be forced into the uterus it is the part of wisdom to desist. It is better to perform some mutilating operation than to run the risk of rupturing the uterus.

With the hand within the uterus, our endeavor is to seize a foot, or both feet, and to turn the child so that the back will be anterior. Pelvic version is of little practical value, for there is danger of a recurrence of the abnormal presentation before the breech can engage. It is better to continue the manipulation and bring down a foot. The elbow may be mistaken for the knee, but the elbow points towards the breech, whereas the knee points towards the head. The foot may be mistaken for the hand. It is recognized by the presence of the malleoli, by the prominence of the heel, and by the fact that the great toe is of equal or greater length than the others and placed in the same plane with them, whereas the thumb is shorter than the fingers and can be opposed to them.

Sometimes the cord is felt. Pulsations can be noted, and the condition of the child is made known. Sometimes the cord is twisted around a leg or an arm. This is a dangerous complication, for, during extraction, the cord may be unduly compressed or broken off. Before taking hold of the foot we should know if the cord is twisted around the leg and, if so, we should disengage it. The foot is seized by taking hold of the metatarsus with the second, third and fourth fingers, while the forefinger and

thumb encircle the projection of the heel behind the ankle, which is held between the first and second fingers.

Now is the time to be careful. The foot must be pulled down without injuring the uterus, especially the thinned lower segment. Moreover, it is necessary to make sure that the back of the child is anterior, otherwise the chin may catch under the symphysis and extraction may become impossible. While one hand has been inserted into the uterus, the other hand is placed externally upon the fundus, so that by careful counter-pressure we may guard against rupture of the lower segment of the uterus or its vaginal attachments. The external hand is now placed upon the head and, very cautiously, the child is turned by pressing upwards on the head through the abdominal wall and by gradually withdrawing the hand which holds the foot. It is to be noted that the heel is uppermost, for in that way we make sure that the back is in relation to the symphysis. A piece of tape is tied around the ankle. An artery forceps is attached to the tape to distinguish it from the tape already tied around the hand which has now receded into the uterus.

There may be difficulty in turning the child after the foot has been seized. The uterine cavity may have become moulded to the shape of the child in consequence of continued contraction. The head may remain fixed in the iliac fossa, and pulling down the foot or pushing up with the external hand may not dislodge it. In this event a noose of tape is slipped over the ankle to maintain control of it, while the hand in the uterus pushes up the shoulder and head. The shoulder may have been driven down before the os internum was fully dilated, and the point of the shoulder may be caught below the os. Even if the arm protrudes, the long axis of the uterus is but slightly altered in its direction. The os internum grips the neck of the child, and pushing up the shoulder only presses it more firmly against the os. This complication is recognized by feeling the rim of the os internum. It is overcome by pressing the point of the shoulder towards the median line, thus disengaging it so that the head can rise easily when traction is made on the leg.

With the arm presentation, converted by podalic version into a footling presentation, there are still the dangers attendant upon such cases, as well as the additional danger due to an exhausted uterine muscle. Undue traction upon the foot may cause extension of the arm over the head. This is prevented by keeping the arm down by means of the tape tied to it, and by judicious counter-pressure through the abdominal walls. The cord is protected from injurious pressure by the inequalities of the legs and arms. When the head comes through the pelvic inlet there is necessarily some pressure on the cord, and often, at this stage of labor, we are called upon to effect a speedy delivery. There is also another danger, for the cold air striking that part of the child that is born may start up inspiration, and mucus may be sucked in so that the child will suffocate. We are also told, although it has not been proved, that partial separation of the placenta may occur, and that in this way the child may fail to receive an adequate supply of nourishment.

Ten minutes is the maximum limit of time that should be given for delivery after the umbilicus is born. Compression may be made externally, the arms will have been brought down, and the body of the child may



be raised up over the symphysis. If delivery seems impossible, it is my practice to apply forceps, and several times I have in this way delivered a living child. If delay occurs after the child has left the uterus, the finger may be inserted in the child's mouth, as Smellie first suggested, and delivery is accomplished by the Prague method of raising up the body of the child over the mother's symphysis.

With a uterine polyp or a fibroid tumor obstructing the passage of the child through the parturient canal, we should recognize the principle in mechanics that a body of a certain circumference cannot pass through an orifice of a lesser circumference. If the neoplasm cannot be removed or pushed out of the way, we should understand that the child cannot be born *per vias naturales*, and we should make an early Cæsarean section; or, if the child is dead, we should resort to cranioclasia, or some other mutilating operation.

When carcinoma of the cervix is present, the danger of uterine rupture is greatly increased. We should be extremely cautious in performing version, and often we should not even think of it. If Cæsarean section is inadvisable, on account of the extension of the carcinoma, no time should be lost in resorting to some form of mutilation. In the absence of these complications, we should not persist in attempts at version, or even give it a thought if a constriction ring demonstrates the probability of rupture of the uterus. We should deliver by Cæsarean section; or, if the child is dead or very firmly impacted and likely to die, we should decapitate by means of the hook.

When mutilation is decided on, the arm should not be amputated. A tape should be tied around it, as I have said, to facilitate the delivery of the body after decapitation. If any difficulty is experienced, cleidotomy should be performed. I mean by cleidotomy the cutting of the clavicles and, if necessary, of several of the upper ribs on both sides, by means of strong scissors. With these bones cut through, as first recommended and practiced by Von Herff, the bulk of the body is appreciably diminished.

Sometimes this procedure is not enough, and at times decapitation is impossible. In such an event, exenteration or a true dissection of the child becomes imperative. Here the protruding arm may be in the way, and may be amputated. Strong scissors may cut through the ribs, or the perforator may make an opening in the thorax, through which two fingers are passed to pull out the contents. The scissors are again inserted through the thoracic opening and the diaphragm is cut through. The fingers pass through this opening and draw out the intestines. Delivery may now take place by spontaneous expulsion or evolution, or else the breech may be brought down and delivered by extraction or by means of the hook. If the breech is impacted, scissors or the decapitation hook may be used to cut off the legs or divide the body. If there is still difficulty in delivery, the two halves may be extracted separately by the sharp hook, or their bulk may be reduced by the cranioclast, the basiotribe of Tarnier, or, best of all, by two blades of Anvard's cranioccephaloclast. The separated head can be delivered, usually without difficulty, by the forceps.

This brief consideration of the treatment of arm presentations shows very plainly, it seems to me, that the usual advice to turn and deliver is inadequate and often decidedly wrong. The different factors in each in-

dividual case need recognition, and very materially modify our plan of action. The interests of the mother are pre-eminently important. The probable outcome for her should very largely determine our procedure. No method of delivery should be even thought of which materially diminishes her chances of living.

**The Forty-third Annual Meeting of the Medical Association of Missouri** will be held in Mexico, May 15th, 16th and 17th. The following papers have thus far been promised:

J. K. Bauduy, St. Louis, A Case of Secondary Carcinomatous Spondylitis; Carl Barck, St. Louis, Intra-Ocular Tumors; J. C. Crist, Lexington, Acute Inversion of the Uterus; C. R. Day, Mayview, Quackery vs. Medical Ethics; C. A. Dannaker, Kansas City, Are Obstetrical Emergencies Fully Anticipated; A. H. Ohmann-Dumesnil, St. Louis, Two Cases of Chancre of the Groin; P. S. Fulkerson, Lexington, Diphtheria; William Frick, Kansas City, Some Observations on Secondary Syphilis; Pinckney French, St. Louis, Modern Pathology and Treatment of Appendicitis; R. S. Kelso, Joplin, Small-Pox, Its Prevention and Treatment; O. P. Kernodle, Sedalia, Recent Improvements and Discoveries in the Science of Alimentation; H. W. Loeb, St. Louis, Limitations of the Laryngologist in the General Treatment of Nose and Throat Diseases; F. J. Lutz, St. Louis, Report on Abdominal Surgery; John Punton, Kansas City, Hysteria and Its Protean Manifestations; E. E. Parrish, Memphis, Hystero-Epilepsy; E. L. Priest, Nevada, State Medicine; J. L. Short, Kansas City, Entropium and Its Rational Treatment; E. Van Note, Kansas City, The State's Greatest Crime; C. H. Wallace, St. Joseph, Treatment of Hernia by the Marcy-Bassini Operation.

A symposium on gall-stones will be a feature of the meeting, which will include the following: Physiology of the Bile, C. Shattinger, St. Louis; Pathology of the Gall-Stones, H. Summa, St. Louis; Etiology and Diagnosis, W. G. Moore, St. Louis; Medical Treatment, C. F. Wainwright, Kansas City; Surgical Treatment, A. V. L. Brokaw, St. Louis.

In addition, the following have promised to contribute: W. S. Alee, Olean; L. W. Dallas, Hunnewell; J. M. Allen, Liberty; John Young Brown, St. Louis; J. F. Campbell, Calleo; O. B. Campbell, St. Joseph; R. M. Funkhouser, St. Louis; Hal Foster, Kansas City; C. Lester Hall, Kansas City; L. I. Jones, Linden; J. E. Jennings, St. Louis; W. F. Kuhn, Kansas City; W. P. King, Kansas City; E. W. Schaufflen, Kansas City.

Arrangements have been made for an exhibit of pathologic specimens. Those who have appropriate specimens that are available are requested to notify the committee at once.

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H. C. SHUTTEE, M. D., West Plains;  
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## ANALYTIC DIAGNOSIS OF ABDOMINAL TUMORS.

BY BYRON ROBINSON, B. S., M. D., of Chicago.

THE abdomen contains three systems of viscera, viz.: (*a*) the *tractus intestinalis*, with its appendages; (*b*) the *tractus genitalis*, and (*c*) the *tractus uranius*. The digestive, genital, and urinary organs are held in anatomic and physiologic relations by the peritoneum, a great lymph sac, the arbiter of life and death in abdominal surgery. Each of these systems of viscera present different varieties of tumors, occurring chiefly in their respective localities and manifesting different symptomatology.

The barrel-like shape of the abdominal cavity, the fixed posterior body wall, with the yielding anterior muscular wall, induces all large tumors to pass toward the umbilicus or median line.

In other words, tumors grow in the direction of least resistance. The nature, size, and location of abdominal tumors can be determined to some extent by examinations made through the vagina and rectum, by inspection, palpation, aspiration, percussion, auscultation, and by colonic inflation. The diagnosis of abdominal tumors demands accurate knowledge of regional anatomy, some comprehension of the nature of tumors, and some practice in the method of examination. Age and sex aid in diagnosis, as certain tumors are peculiar to one of the sexes (ovarian, parovarian, and uterine myoma), as well as peculiar to certain ages of either sex (carcinoma of rectum or pylorus). The analytic or differential diagnosis of abdominal tumors requires careful cultivation; but, unfortunately, the facile exploratory and confirmatory incision has relegated it to the background.

(*a*) *Tumors of the Tractus Genitalis*.—The genital or gynecologic tumors consist chiefly of four kinds—myoma, ovarian, oviducal, and parovarian. The age of the patient lends some aid in the diagnosis. Myoma occurs in general from the twentieth to the fiftieth year. Oviducal tumors belong to the period of child-bearing life. Parovarian tumors occur after puberty. Ovarian tumors occur at all ages; however, the younger or older the patient, the more malignant it is liable to be.

The size of the tumor is of little worth, except, if it be enormous, it is probably ovarian; but with this must be recorded hydronephrosis, echinococcus, ascites.

The shape of the tumor is of considerable importance. Is the tumor round, flat, or diffuse? Does it consist of one or more segments, and what is the shape of each segment? Does any part of the tumor lose itself in the adjacent organs? Can the origin of the tumor be located? Does it move with other organs, as the uterus? Ovarian, parovarian, and oviducal tumors and myomata are, in general, round in shape. The malignant tumors are not round, but irregular and fixed, and do not limit themselves to the original organ or seat, but diffuse themselves into adjacent organs and tissue. The borders of malignant tumors are indefinite, hence shapeless. A flat-shaped mass with non-circumscribed limits is a peculiarity of inflammatory tumors, whether it be of peritoneal or parametritic nature. Hæmatoma show borders and limitations according to the resisting structure. Pelvic hæmatocele, after coagulation, will assume circumscription,

and, hence, shape. The shape of the surface of any genital tumor is important. It is smooth, as are ovarian tumors, or irregular, as in certain myomata. Irregular elevations, depressions, constrictions, nodules, are found in myomata. But essential *irregularity* is a characteristic of malignancy. Sinuous or winding tumors indicate oviducal cysts.

*The consistence* of a tumor is significant as to whether it is cystic or solid. Also, is the solid tumor hard or soft? Is the cystic tumor tense or slack? In genital tumors solidarity points to the uterus, while the cystic condition suggests ovarian or parovarian. Consistence tests of tumors are difficult on account of lack of any recognized standard. How many fail in realizing the difference between the consistence of the cervix in the pregnant and non-pregnant state? Old obstetricians compared the consistence of the cervix in the resting stage to that of the cartilage on the tip of the nose, and its consistence in the pregnant state to that of the lips—an excellent comparison. However, the chief difficulty in determining the consistence of genital tumors lies in the abdominal walls; according to the resistance it offers one must vary the pressure; and the abdominal walls, being under the will of the patient, vary according to the nervous system and inflammatory condition.

If one can determine that a tumor is uniformly solid, in all probability it is a myoma, for solid ovarian tumors are rare (one solid in twenty cystic).

Multilocular ovarian cysts are hard and soft in localized points, but the hard and soft spots are connected and more together. Carcinomatous development of any organ shows hard and soft consistence. In large, thin-walled ovarian tumors the consistence feels like ascites; but it is the exception for oviducal cysts, parovarian cysts, or cystic myoma to present diffuse palpation. The consistence of a fatty belly resembles that of an ovarian tumor, but the test is to palpate between the fat accumulation and the abdominal viscera—in other words, one can isolate the fatty wall in great rolls with the thumb and fingers. The spleen, liver, and kidneys may be confused in location and shape and consistence with genital tumors; but in carcinoma they present hard and soft areas, while in fatty bellies they present solid consistence.

*The elastic feeling* of consistence is instructive, as in intensely filled cysts, ovarian and parovarian; also exists to a certain degree in the hypertrophy of the parenchyma of organs, as hypertrophy of liver, spleen, kidneys, and soft oedematous uterine myoma. The typical elastic consistence is in distinct contradistinction to the fæcal tumor of the bowel, rectum, which often fills the lesser pelvis. The finger enters the fæcal mass slowly and leaves a point of depression fixed in the surface. It is non-elastic. The hematmata and the hemocele may, at certain stages of coagulation, feel distinctly non-elastic, simulating hematmata and hemocele. Consistence—solid, cystic, or elastic—is an important element in any tumor. It must be borne in mind that cystic tumors of appendix, gall-bladder, pancreas, mesentery, echinococcus, and retroperitoneal tissues may arise, and will require that the test of consistence be applied, as well as genital cysts—for all large cysts tend toward the umbilicus.

*The location* of a tumor in the abdomen is one of the most important steps in the diagnosis; because, in a large majority of cases, the tumor



assumes the position of the original position of the organ from which it sprung. This is especially true of the genital tumors. Genital tumors all assume a location in the pelvic cavity—the distal end of the abdominal cavity. The viscera from which they arise are located in the pelvis. The location of the genital tumors change, however, according to the size; as, when they become larger than the lesser pelvis, they tend toward the umbilicus—the direction of least resistance.

The location of the genital tumors—in the distal end of the abdominal cavity—must be differentiated from the abdominal tumors located in the proximal end, such as tumors of the liver, spleen, pancreas, mesentery and kidney; for tumors of the proximal and distal ends of the abdomen approach each other at the umbilicus. However, the genital tumors persist more in the distal end of the abdominal cavity—the pelvis—than other tumors persist in the proximal end; for from the beginning abdominal tumors, as gall-bladder, kidney, spleen, etc., tend more vigorously toward the umbilicus. In regard to the location of the genital tumors there is a prevalent error among general practitioners that, *e. g.*, uterine tumors lie in the median line, and that the ovarian and parovarian lie in the lateral regions of the abdomen. All genital tumors tend to the median line. An ovarian or parovarian tumor remains laterally only through peritoneal adhesions, by which it loses its mobility.

*The mobility* of gynecologic tumors is an aid to diagnosis. Genital tumors do not move with respiration, like those of the liver and spleen. The genital tumors have in common certain grades of mobility. Even intraligamentous tumors, as parovarian cysts, etc., possess some mobility. The mobility of gynecologic tumors is not so much an aid to diagnose the nature, as it is in discovering the seat or origin of the tumor.

*The origin* of the gynecologic tumors is often well told by their location. The questions to decide are: is it a gynecologic tumor? and, if so, from what organ does the tumor spring? The common characters of the genital tumors are that they arise in the small pelvis more proximalward, rest on the pelvic brim, and, according to their size, a segment of the tumor projects into the lesser pelvis, while their external contour is bounded in all directions by the adjacent viscera. They force the enteronic and colonic loops proximalward. However, with a long pedicle, the tumor may pass proximalward under the central arch, and be mistaken for a kidney or spleen. I saw and operated with Dr. MacKellar on a parovarian tumor with a pedicle seven inches long, which allowed the tumor to wander in any position of the abdominal cavity. With long pedicles, colonic or enteronic loops may exist distal to gynecologic tumors. The zone of intestinal loops distal to the tumor must be determined by percussion and palpation. However, a thick omentum majus may present dullness between the genital tumor and the pubic. Uterine and ovarian tumors may become so large that they are in contact with almost any abdominal organ, and hence the origin is impossible to differentiate. They may lie so far proximalward that they cannot be outlined in origin. Gynecologic tumors possess a characteristic distal fixation. If it be attempted to force a genital tumor proximalward, a certain hindrance is experienced; and if the tumor be forced proximalward, it will again pass distalward when the force is removed, showing its distal anchorage.

The greater ability to diagnose the nature and origin of genital tumors is due to bimanual examination, which enables the examiner to palpate the *position, size, shape, location, consistence, uniformity* and *mobility* of the pelvic genitals.

Since the genitals can be sufficiently palpated bimanually for tumors in the lesser pelvis, all other abdominal tumors can be excluded from them. But it must be remembered, that one cannot generally palpate the normal ovaries and oviducts in a normal woman. However, if it be larger than normal, it can be palpated, or if the subject be more spare than normal.

In determining the origin, the best method in genital tumors is to begin with the examination of the uterus. The most certain indication that a tumor belongs to the uterus is that the portio vaginalis spreads and extends into the tumor. The best type of uterine tumor to illustrate this fact is the uniform, balloon-like enlargement of the cervix and uterus in pregnancy, and also that of some cases of soft edematous myoma. The cervix gradually, funnel-like or balloon-like, expands into the distal portion of the uterus. In multinodular myoma, where a single nodule is located on one of the four uterine surfaces, the diagnosis is more difficult, and one must attempt to pass the finger along the surface of the cervix and uterus until it meets the tumor, to determine its origin by the uterus; and also if the tumor move with the uterus, two valuable indications are demonstrated for a uterine origin. One must not be deceived by small adherent ovarian tumors, as they move with the uterus and feel as if they spring from it. If the nodular myoma be furnished with a small, long pedicle, great difficulty will be experienced in differentiating it from an ovary. The chief aids then are the kind of connection and the consistence. However, in one case I saw two general practitioners and a gynecologist fail to differentiate a fist-sized uterine myomatous nodule from hard ovary—all diagnosed it as a hard ovary, and operation demonstrated it to be a typical pediculated myoma.

When movements of the genital tumor through force applied to the abdominal walls is accompanied almost always with movements of the portio vaginalis, and especially if the cervix expand into the periphery of the tumor, in all probability the tumor originates from the uterus. But warnings against this rule should not go unheeded. In large uniform uterine tumors, movements of the proximal portion will be accompanied by movements of the distal portion of the tumor, and vice versa. The exception to the rule frequently arises in subserous myomata, and in ovarian tumors. A large ovarian tumor may, by its movements, induce corresponding movements in the portio vaginalis from intimate contact and peritoneal adhesion. An intraligamentous tumor (parovarian, nodular, myoma), freed, bound or adherent ovarian tumors may stimulate distant movements, and a uniform uterine myoma may produce almost exactly similar movements in the cervix.

Difficulties in diagnosis also arise in the adenoma or enlargement of the portio vaginalis and distal uterine segment during pregnancy, as from too much flexion of the uterus. When in doubt as to genital tumors, do not express a distinct opinion—study the case with ample time. Never pass sound when suspicion of pregnancy exists.



It is not always justifiable to use the sound in the uterus for diagnostic objects, as it may infect; and second, ultimately produce an abortion (unsuspected). However, the long uterine cavity as measured by the sound indicates a tumor of uterine origin. Seldom, perhaps, the uterus might be bent and elongated by intraligamentous tumors. The *musculus rotundus uteri*, round ligaments, has a limited value in indicating the uterine origin of tumors. If one can trace the round ligaments clearly to the tumor and follow it on the tumor for distance, it is uterine. To para-uterine tumors it has no signification, unless a tumor becomes elevated proximally so that the round ligament carries over, tensionizes the tumor, and can be felt in such position. If one has decided by all the aids at hand that a tumor is uterine, it will be (*a*) pregnancy, (*b*) myoma (multinodular or soft œdematous), or (*c*) sarcoma. Multinodular myoma is self-evident when palpated. Through interesting and important space forbids a discussion of the differential diagnosis of pregnancy, soft edematous myoma sarcoma of the uterus. Suffice it to say that the greatest number of errors occur in relation to the tumor of pregnancy by reason of its frequency. The physician is led astray by the motives and circumstances of the patient. Besides, he fails to appreciate the characteristic symptoms of a pregnant uterus.

If the uterus be excluded as the origin or seat of the tumor, the subject of para-ovarian tumors of practical interest in regard to the size are: (*a*) ovarian, (*b*) para-ovarian, (*c*) oviducal, (*d*) hæmatoma and hæmatocele, and (*e*) intra- and extraperitoneal exudates (rarely bony tumors).

*The contour* or borders of the para-uterine tumors are important. If the genital tumor possesses a distinct, sharp, palpable contour, and has its own walls, it is in all probability ovarian or para-ovarian, possibly oviducal, for exudates and hæmatoma are not sharply defined or circumscribed. An oviducal tumor (pus fluid or blood), though it be buried in peritoneal exudates, is frequently capable of presenting a definite palpable outline.

*The consistence* is of considerable value in differential diagnosis of para-uterine tumors, as ovarian, para-ovarian, oviducal, hæmatocele, and even peritoneal exudates may palpate as fluctuating cystic, or at least quite elastic. Solid ovarian tumors (five per cent. only) and very thick-walled oviducal tumors are rare exceptions. If a para-uterine tumor possesses a sharply defined outline and is cystic, the probability is that it is ovarian, from the frequent occurrence of such tumors. Great certainty is added to an already sharply defined, contoured cystic tumor as being ovarian when palpation demonstrates that the tumor is connected to the uterus by a thin, long pedicle (ovarian ligament).

Para-ovarian tumors can only be diagnosed when on the same side of the ovary and its ligament can be palpated and oviducal tumors can be excluded by palpation of the thick part of the oviduct. In short, it is doubtful whether para-ovarian tumors can be positively diagnosed, owing to their simulation of ovarian and tubo-ovarian tumors. Tumors of diffuse borders or contour, or broad connection with neighboring organs, indicate an inflammatory process and hæmatoma or hæmatocele.

The large pelvic or gynecologic tumors projecting proximalward to the pelvic brim (ileo-pectineal line) present intimate relations to the

other tumors of the abdominal cavity (urinary, and those of the tractus intestinalis and its appendages).

The principal territory of the gynecologic tumors is the small pelvis. Naturally, if the tumors become larger than the pelvis, they will project according to their size proximally into the abdominal cavity. The differential diagnosis of gynecologic tumors is of much importance to physicians, on account of their frequent occurrence and because they present less sharp differences than the remaining abdominal tumors.

In the small pelvis, besides the gynecologic tumors, occur those of the bladder, rectum, peritoneum, and pelvic bones.

The genital tumors met in practice are those of the uterus, oviducts, ovary, and para-ovarian, the hæmatoma, and hæmatocele. Those of the parametrium, extra- and intraperitoneal exudates and ligamentum latum. The differential diagnosis of the genital, gynecologic or pelvic tumors is a difficult subject, and presents to the specialist many unsolved problems. The rock and base of the diagnosis of gynecologic tumors is the objective examination by means of bimanual vaginal palpation. The groundwork consists in first finding the organ from which the tumor springs, after which the nature of the tumor is easy to proclaim. The analytic diagnosis of abdominal tumors solves itself into a problem of topographic anatomy.

[TO BE CONTINUED.]

**Hydrotherapy in Pneumonia.**—Baruch (*Pediatrics*, January 1, 1900) says that in the pneumonic fevers of children I am in the habit of using the gradually reduced full bath, placing the child's entire trunk into water at 96°, using continuous friction over the body, while another person adds ice water, so as not to touch the body, until the bath water is reduced to 85° or 80°—duration five to eight minutes. Such a bath should be followed by drying and friction. I have found the chest compress at 60°, repeated every hour or two, an effective auxiliary. It deepens the inspirations, temporarily increases cough, and thus aids in the expulsion of stagnant secretions; arouses the heart, causing cyanosis to disappear for a time; and when the compress gets warm, we have the poultice effect of calming irritation, inducing sleep, and relieving pain, without the relaxation incident to the old-fashioned warm poultice. I usually begin the compress at 100°, then gradually reduce each time from one to five degrees, until sixty are reached.

In desperate conditions of broncho-pneumonia, whether idiopathic or complications of the exanthemata, when the skin is cyanotic, the respiration shallow, the pulse rapid and almost imperceptible, the extremities cold, although the internal temperature may be high, I am in the habit of ordering a stimulant and personally administering an affusion with a basinful of water at 60°, poured with some force over the shoulders of the child, while the latter is held semirecumbent in a tub of water of 105°, reaching to the navel. Followed by drying and friction, and repeated every hour or two, increasing the number of basins of water up to four, I have observed the overloaded bronchi relieved, the inspiration deepened and calmed, expectoration increased, cyanosis removed, and the pulse greatly improved.



## ANTITETANIC SERUM IN THE TREATMENT OF A CASE OF ACUTE TRAUMATIC TETANUS.

BY DAVID C. MCVAIL, M. B., of Glasgow, Scotland,

Professor of Clinical Medicine in St. Mungo's College, Glasgow, and Physician to the Royal Infirmary.

THE effect on tetanus of serum antitoxine has sufficient interest to warrant publication of the following case, in which that serum was employed:

J. M., aged forty-five years, was admitted to the Glasgow Royal Infirmary on June 23d, 1896. Patient stated that on May 25th, while intoxicated, he was struck on the back of the head with a piece of wood, which was part of a chair, in the house of a coach-painter, who painted coaches, both new and old. He lay on the floor in a drunken condition until the next morning.

There was over the junction of the two parietal and two occipital bones a scalp wound of cruciform shape, each limb of the cross fully one inch in length. This was dressed by a doctor on the following day, but by June 12th was not healed, and it was then dressed at a dispensary, and, subsequently, at another dispensary. On admission this wound was entirely cicatrized, and was not at all painful, not even tender. On May 27th—two days after the injury—he felt the muscles of the back of the neck to be stiff, and when he went for the first time to the dispensary on June 12th the surgeon who saw him advised him on account of that muscular condition to go into an hospital. This he did not then do. Two days subsequently to this, on June 14th, a sudden muscular spasm of the left leg caused him to fall in the street, and the muscles of that leg were more or less stiff thereafter, the rigidity gradually increasing. His second dispensary visit was on June 17th, when he was told that the wound was entirely healed, and was again recommended to go into hospital because of the muscular condition. He still disobeyed, but on June 22d the right leg became stiff, and on the following day he came to the Royal Infirmary and was admitted to Medical Ward IX.

On admission he was just able, with great effort, to walk on the floor with very short steps, the movement being entirely at the hip, and not at all at the knee. On the 24th, examination showed that the whole muscles of both legs and both thighs were in rigid contraction, the legs lying extended in bed, and everywhere hard to the hand. The great muscles of the back and the posterior muscles of the neck up to their attachments to the skull were in equally strong contraction with those of the thighs and legs. The muscles of the hands and arms, pectoral muscles, the intercostals, and the abdominal muscles had apparently escaped. The muscles of mastication, of the eyeballs, and the face were in normal condition, except the proper facial muscles of the chin, which were rigid—the lower segment of the orbicularis oris, the depressor labii inferioris, depressor anguli oris, and levator menti, were also in strong permanent contraction. The tongue on this date was protruded easily, and retained its normal softness.

As he lay answering questions, an occasional comparatively slight spasm affected the right muscles and caused his face to wince. The rigidity of the muscles was in no sense acutely painful and the spasm only slightly so. His ordinary speech was somewhat indistinct from the rigidity of the lower lip, but by deliberate effort he could overcome this and pronounce all words and say all the letters of the alphabet correctly although somewhat slowly. He perspired very freely, particularly over face and head, especially when answering questions. In the course of that afternoon and night he took sixty grains of bromide and forty-five grains of chloral, the bromide being continued throughout—sixty grains daily.

It was evident that the patient had generally been a fairly healthy man, although indulging too freely in alcohol. The lungs were normal. The cardiac apex was in the fifth interspace, five inches from midline—showing some heart enlargement; there was no murmur. The urine was free from albumen.

On the following morning the night nurse reported that from 9 P. M. to 9 A. M. she had noted seventy-nine spasmodic attacks, varying in length, the longest being two minutes and fifty seconds, and on account of these he had only slept a few minutes at a time, but he had slept frequently. He had experienced some little difficulty in swallowing, but this he himself attributed to the stiffness in the back of his neck. The affected muscles were in the same condition as on previous day, but the sterno-mastoids were becoming involved, and stood out in moderate constant rigidity. Antitoxine having been received from Messrs. Burroughs, Wellcome & Co., ten cubic centimeters were injected into the right groin and ten into the left—the skin and instruments having been carefully cleansed and sterilized. On this day from 11 A. M. to 9 P. M. forty-two spasms occurred, four of which were principally in the back and four in the left leg.

June 26th.—From 9 P. M. to 9 A. M. there were fifty-two spasms, and patient slept little between the spasms until after 4 A. M., notwithstanding that at midnight he had thirty grains of chloral. The muscles previously affected had undergone no change except that the sterno-mastoids were distinctly more rigid. The abdominal muscles were stiffening and the tongue also was hardening. The muscles of mastication, the temporals and masseters were becoming involved, only to a limited degree, and swallowing, he said, gave him pain in the back of the neck. The pectorals and arms remained free from any affection, and his respiration was quite easy as he lay in bed.

Again ten cubic centimeters of the antitoxine were injected into the right groin and ten into the left.

Up to this time the highest temperatures had been 98.6° on the 25th, and 98.8° on the 26th. On this day, subsequent to the injections, from 11 A. M. to 9 P. M., there were only twenty-five slight spasms.

June 27th.—From 9 P. M. to 9 A. M. this morning there were thirty-seven spasms, and patient slept well in the intervals after midnight, and the spasms were neither so long nor so severe, the longest being three seconds; five affected muscles of hips only; two, legs and hips only. The tetanic condition of all the muscles was decidedly less, he opened his mouth more widely, the tongue was softening, and he protruded it easily.



From 9 A. M. to 9 P. M. sixteen slight spasms occurred on this day, only one of which was of any severity; all the others were partial.

June 28th.—From 9 P. M. to 9 A. M. this morning there were only fourteen slight spasms, and he had one complete interval of two hours and a quarter. He was somewhat restless before midnight, when he got thirty grains of chloral, after which he slept well in the intervals of the spasms till six o'clock. The muscles were all softer, he was able to help himself round from side to side. The mouth opened fully, the tongue remained soft, and was easily protruded. Fourteen slight spasms occurred during this day. Every way decided improvement.

June 29th.—From 9 P. M. to 9 A. M. of this date there were eight spasms. These were slight and occurred before midnight. From 12:35 this morning until 12 noon of this day there were no spasms whatever, only at 2 A. M. and at 4 P. M. he complained slightly of pain in his thighs. This was of short duration. He did not, however, sleep well in the early part of the night, and had twice thirty grains of chloral—10:45 P. M. and 2:35 A. M. This day a third injection of twenty cubic centimeters of antitoxine was given as before. At 4 P. M., after this injection, the temperature rose to 99.8°. On this day at most there were only four very slight spasms.

June 30th.—During the past twenty-four hours only five spasms occurred, and these were slight. The muscles were now practically normal to the hand as regards tonus. Bowels were opened by enema. This day the temperature rose in the evening to 102.6°.

July 1st.—In the twenty-four hours, including the previous night and the whole of this day, there were only three slight spasms, but the temperature early in the morning reached 103°, from which it fell to 102° at 6 A. M., to 100° at 10 A. M. It was 101.6° at 2 P. M., 100° at 4 P. M., 102.2° at 6 P. M., 100.4° at 8 P. M., and 101.8° at midnight.

He complained of slight feeling of pain at and around the seat of the antitoxine punctures, and there was a faint pink erythematous blush in both groins where the needles had been inserted. This day he had considerable diarrhœa.

July 2d.—During the preceding night and the whole of this day he had only two slight spasms. The temperature, which at 2 A. M. was 102.4°, in the afternoon had fallen to below 100°, and did not on this day rise above 100.4°. All the muscles continued relaxed, and he could move in bed as he desired. Diarrhœa continued, and he had morphia suppositories. The erythematous eruption in the groins spread somewhat. He had a restless night. Iodoform dressing was applied to the erythematous surface.

July 3d.—No spasm occurred at all this day. Diarrhœa was abating. Highest temperature was 100.4°. From this time onward there was no more tetanic spasm, but there were occasional momentary muscular twitchings. Several times on succeeding days he got out of bed to stand on the floor, and was able to walk a short distance about the room with help, tending, however, to bear his weight chiefly on the toes from slight overcontraction of the calf muscles. The erythematous blush in the groins extended, reaching to about three inches above Poupart's ligament and three inches below. It was never raised above the ordinary level of

the skin in the least degree, at the margins, and it was entirely soft throughout—only the color differentiated it from the normal skin.

On the 5th of July a rash of a totally different kind began to appear, with which, unfortunately, we have had some familiarity in the Royal Infirmary—the dermatitis described by Dr. Savill, of London. This rash appeared on the face, knees, and to a less extent on front of chest, back, and arms and hands simultaneously, and soon the constitutional symptoms that so frequently accompany this rash made their appearance.

The succeeding report shows the condition as to rash on the following days up to the 11th. It will be seen that the erythematous rash in the groins faded rapidly as the general dermatitic rash increased, the groin rash fading from the center towards the margins. The dermatitic rash consisted for the most part of raised rose-colored papules, which over the face and knees on 9th of July had become confluent.

The rash disappeared entirely on pressure except to a slight extent here and there on the last day of his life.

It will be seen from report that the dermatitic rash attained its maximum on the 9th of July, fading somewhat on the 10th, and more on the 11th. On the 11th desquamation, usual in Dr. Savill's rash, was beginning on the chest. His temperature, which on the 4th and 5th was not higher than  $99.2^{\circ}$ , rose on the 6th to  $100.4^{\circ}$ , on the 7th to  $102.2^{\circ}$ , on the 8th to  $103.8^{\circ}$ . He became slightly delirious on the 7th, and this delirium increased. On the 9th, 10th, and 11th the temperature was, for the most part,  $103^{\circ}$ . The delirium increased; tongue became dry and brown. From July 8th stimulants were administered.

On the 12th, his temperature steadily rose, reaching to the great height of  $109.2$  degrees at 9:15 P. M., when he died, after having been in a comatose condition for more than twenty-four hours.

From the first appearance of Dr. Savill's rash the course resembled closely, except that it was more rapid, other cases—at least four or five of the same rash—that have occurred in these wards.

#### POST-MORTEM REPORT.

July 15, 1896.—External Appearances.—Well developed and nourished body, considerable discoloration of skin of abdomen, and dependent parts, and purpura-like mottling of the arms and thighs. Pupils equal and medium. Rigor mortis pronounced.

Thorax.—The heart is very flaccid, pale, and the endocardium stained with blood. The valves are healthy, but the muscular tissue is very soft from fatty and albuminous degeneration. The aorta and coronary arteries are healthy. The lungs are congested and somewhat edematous, but otherwise healthy.

Abdomen.—The stomach is distended with gas, and mucous membrane is somewhat atrophied, but otherwise healthy. Intestine is somewhat distended with gas, but presents healthy appearances throughout. Pancreas is much stained with blood pigment, but is otherwise healthy. Spleen is small and very soft. The liver is very soft, and on section appears much altered by cloudy swelling, and its substance is stained with blood pigment. The kidneys are also much affected with cloudy swelling, and they appear congested and also greatly altered by post-mortem decomposition.



On cutting into the muscles of the back hemorrhage appears to have taken place into their substance, as they are greatly discolored by blood pigment and post-mortem decomposition.

The posterior surface of the spinal cord is congested and much discolored; the cord feels soft, probably from post-mortem change. The cord was hardened in Formol and sections cut from the dorsal and lumbar regions. These were stained by Nissl's methods. Nothing abnormal was made out microscopically.

The chief points of interest in this case are:

1. The steady growth of the tetanic contractions until after the second injection of twenty cubic centimeters of the antitoxine—that is, until forty cubic centimeters had been employed—and the subsequent rapid decline of the tetanic condition and spasms, and their final complete disappearance. The third injection took place during the decline of the spasms.

2. The appearance of the erythema around both the seats of puncture, of the third injection, the simultaneous and equal spread in both groins and its character, never elevated nor in the least degree hard, and its rapid disappearance from the centers to the margins during the development.

3. The general dermatitic rash of a totally different character to that in the groins, consisting of elevated rose-colored papules entirely soft, and fading on pressure and becoming on parts of the surface confluent; this also in process of fading when death occurred.

4. The extreme hyperpyrexia which preceded death.

The post-mortem examination was made by Dr. Workman, who also drew up the report.

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**Determination of Sex at Will.**—In the *New York Medical Journal* of February 24, 1900, is an article by J. Griffith Davis upon this subject, which is commented upon editorially by the same journal. The tendency of these remarks is toward the belief that Dr. Davis has solved the problem which has heretofore proved so elusive. The formula is stated as follows: "In every monthly cycle of menstrual life there is a period of susceptibility to impregnation, divided into three terms, viz., from three days previous to menstruation to eight days after the cessation of the flow, in which only girls are produced; from ten to fifteen days after menstruation, in which only boys are produced; and the intervening ninth day, which may be called neutral ground, in which the result is uncertain—twins of different sexes may be the outcome, or, if only one child is the issue, it may be either a boy or a girl, but if it is a boy it is apt to be defective in masculine characteristics, and if it is a girl it is prone to be of the hard angular type."

The *Journal* comments enthusiastically upon the application of Dr. Davis' theory, which it is hoped will deliver the world from masculine women and from the "male milksop, legally entitled to wear trousers, but wholly incapable of bearing arms."—*Medicine*.

## LONDON CORRESPONDENCE.

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**Fever Hospital in Belfast, Ireland.**—There is considerable discussion in Belfast at present about the site of the hospital for infectious diseases which it is proposed to build very soon. The proposed site is at Purdysburn, some distance from the city; and an influential deputation of medical men to the City Council has pointed out some grave disadvantages of this position. The most important objection is the danger to patients, particularly in enteric fever, of moving them to a distance. As the profession of Belfast seems to be nearly unanimous in point, eighty medical men having signed a memorial inside of two days, it is to be hoped that their views will be respected.

**Professor of Pharmaceutics.**—In the regulations made for the University of London under the act of 1898, now lying on the table of the House of Commons, provision is made for a board of pharmacy as one of the thirty-two boards to be created to regulate the various courses of studies. The three professors of the School of Pharmacy are recognized as teachers of their respective subjects under the regulations, but it is noticeable that, while the professors of chemistry and botany retain their present titles, the professor of *materia medica* and pharmacy is described as “professor of pharmaceutics.” It was stated at the meeting of the Pharmaceutical Council last week that this new title had been adopted on the suggestion of Sir Michael Foster, M. P.

**A Curious Case.**—An extraordinary state of affairs in connection with one of the transports has been brought to light. It appears that a man was appointed to the position of veterinary surgeon on board the steamship “Kent,” which is conveying the Bedfordshire contingent of the Imperial Yeomanry to South Africa, who had no diploma. Sir John Maxwell Sterling goes to the length of saying that the man had neither instruments nor drugs, and that four horses died on the voyage between England and Madeira of stoppage of water because he was unable to perform the ordinary operation for their relief. It is now officially admitted that the responsibility for the appointment lies with the Yeomanry Committee, but that the selection of this person, who was certainly not qualified for the position, appears to have been due to an unfortunate confusion of identity. There was, however, a full supply of veterinary drugs and instruments on board, placed there by the Army Veterinary Department. We should like to hear more about this “confusion of identity.”

**The Treatment of Inebriates.**—Sir Matthew White Riley has taken the best means of denying the statement that the Inebriates Act of 1898 is practically a dead letter—he has given a statement of what has been done. No fewer than one hundred females and two males have been committed to and received certified reformatories. Further accommodation is needed, and action is being taken by many local authorities to provide it.

The medical staff of the Imperial Yeomanry Hospital and the bearer



company have been approved by Surgeon-General Jameson, Director-General of the Army Medical Department. Surgeon-Major C. Stonham will be the military commandant, and the civil medical staff will consist of Messrs. T. S. Openshaw, of the London Hospital, surgeon; F. W. Sheen, of the Cardiff Infirmary, and A. H. Evans, assistant surgeons; and Dr. Parris Stewart, Westminster Hospital, physician. The medical officer of the bearer company will be Major Hall, R. A. M. C., and Messrs. A. A. Scott Skerving and Frederick Green.

**Electricity in the Treatment of Phthisis.**—A French physician, Dr. E. Doumer, has been studying for some years past the effects of electric currents of high tension and frequency in cases of chronic phthisis, and his conclusions form the subject of an interesting paper read at a recent meeting of the Académie des Sciences in Paris. He has investigated their action on seventeen patients at the Hospital of Saint Sauveur at Lille, his method being to apply to the surface of the chest corresponding to the tubercular lesions, both in front and behind, the current derived from a powerful battery, for a period of five to twelve minutes daily, or every other day. He states that in patients so treated the majority of the symptoms yielded after a time, and the progress of the disease was checked. After the fifth or eighth application the night-sweats began to diminish, and towards the fifteenth usually ceased altogether, whilst there was a concomitant diminution of wasting and fever, and the appetite showed improvement. Towards the end of the second month of treatment the cough became less persistent and painful, and the expectoration less profuse. Finally, at the end of three or four months, the physical signs cleared up, and were no longer perceptible by the sixth or eighth month. M. Doumer states that in five of his seventeen cases the treatment has been stopped for more than two years, and there still remains an entire absence of untoward symptoms. The number of cases treated is, of course, too small to warrant any decisive conclusions being drawn, but the results recorded would seem to justify a further trial of the method by other observers.

**The Study of Malaria.**—The enterprise of the Liverpool School of Tropical Medicine in sending out Major Ross to conduct an investigation into the cause of malaria is receiving sincere flattery from the London School. Under the auspices of the school, and with the approval of the Colonial Secretary, a mission of experts is shortly to proceed to the Roman Campagna, there to study the malarial poison, and the relation of mosquitos to its transmission to the human subject. Dr. Louis Sambon will take a leading part in the undertaking, and will probably remain on the spot during the summer and autumn. He is understood to have devised some ingenious contrivances to avoid mosquito infection, and we trust he will prove himself a triumph, and not the victim, of his own ingenuity. The funds for the expedition are to be provided by the Colonial Department, and the Italian government, as well as the local representatives of the profession, have promised cordial and practical support to the enterprise.

## NEW YORK LETTER.

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**Stricture of the Œsophagus.**—Dr. B. Farquhar Curtis, at a recent meeting of the Surgical Society, showed a nine-year-old girl who drank caustic potash in May, 1898, and was brought to him in January, 1899, with symptoms of a stricture of the œsophagus of moderate extent. A bougie, one-eighth of an inch in size, passed in readily, but there was a curve in the canal which interfered with the swallowing of solid food. Further dilatation with bougies proved unsuccessful. The patient was lost sight of during the summer. The following September the stricture had contracted to such an extent that even a filiform could not be made to pass. Gastrotomy was therefore done. The attempt to locate the lower œsophageal opening was unsuccessful. A large-sized Kelly rectal tube was then introduced into the stomach and inspection through this revealed the cardiac orifice marked with a thick, white scar, in the center of which was a small opening which admitted a fine silver probe; even this was only located after milk had been injected into the œsophagus through the mouth. During the four weeks that followed the patient was nourished through the gastric fistula and improved much in health. She was then anæsthetized, and a filiform bougie was passed from the mouth into the stomach. An attempt was made to dilate the stricture by means of strings, but with little success. Later a rubber tube was passed through the stricture under considerable tension, and allowed to remain *in situ* for about a week. This method of dilating an œsophageal stricture Dr. Curtis had seen described in a German publication, and he regarded it as an excellent one. He described it as follows: a rubber tube of considerable size, with a piece of Chinese braided silk attached to one extremity, is passed into the œsophagus; the lower string is then caught through the stomach wound, and the rubber tube considerably reduced in size by stretching, is drawn through the stricture and allowed to remain there. The tube completely blocks the œsophagus, and while it is in place the patient is fed through the fistula; this complete occlusion of the œsophagus gives rise to some discomfort on account of the regurgitation of saliva. Subsequently, a larger tube was introduced; this last tube was about five-eighths inch in diameter, and it remained four or five days, finally slipping into the stomach, and was removed through the fistula. The child now takes a large-sized tube through the mouth, and is able practically to swallow everything. The gastric fistula still remains patent.

**Small-Pox at Columbia University.**—On March 22d a student in the university was discovered to be suffering from small-pox, and was removed from his boarding-house to the hospital for contagious diseases on North Brother's Island. Nearly four hundred professors, students, and employes were vaccinated, and all students who boarded in the same house or who had called to see the patient were excluded from the university and its grounds until they could produce certificates from the board of health to the effect that all danger had passed.

**Bill Regarding the Effects Found on the Dead.**—This bill recently passed the assembly and makes it a misdemeanor to publish any letter,



telegram or private paper secured from the clothing of the dead or seriously injured, the only exception being when the coroner deems that such publication will serve the ends of justice.

**Maine and the Red Cross Society.**—On March 22d a concert was given at the Metropolitan Opera House by the members of the Maurice Grau Company and \$12,000 were realized for the American Hospital Ship, "Maine," and the British and American Red Cross Societies.

**Henry Bill Defeated.**—This bill regulated the hours for drug clerks. It was defeated. To show how interested the legislature is in the welfare of these drug clerks, a bill was just passed which compels every pharmacist to pay \$10.00 every year for the privilege of registering.

**United States Revolver Association.**—This association was organized March 5th, with Dr. Reginald H. Sayre, president, and Dr. Calvin T. Adams a member of the Executive Committee. Dr. Sayre, who is inspector of carbine and pistol practice in Squadron A, of the New York National Guards, has won a large number of trophies in various contests by his skill and marksmanship.

**Duryea Convalescent.**—This young man, who suffered from fracture of the cervical vertebræ, is constantly improving, and there is great hope for his complete recovery.

**Dr. McBurney's Resignation.**—Dr. McBurney, for many years the chief of the staff of surgeons at Roosevelt Hospital, has severed his connection with that institution. His reason for so doing is to obtain much-needed rest.

**The City's Out-Door Poor.**—The physicians for the city's out-door poor examined 94,480 adults during 1899; 4,317 were sent to the Alms-house; 517 to the Colored Home; 862 children were sent to the Nursery and Child's Hospital, and 907 to the Infant's Hospital. The sum of \$67,403.71 was secured for abandoned families and for illegitimate children.

**Harlem Hospital.**—Ground will be broken by the Department of Charities the coming spring for a new hospital, to be located in Harlem. The hospital will cost, when completed, about \$500,000, and will be constructed and fitted up on the most scientific principles. The suggestion has been made by several eminent physicians that the medical and surgical wards be divided between the two leading schools of medicine in the city, the "homeopathic" and the so-called "regular" schools, the physicians and surgeons appointed from each school to have the entire control of their respective wards. The *New York Medical Times*, in an editorial on this new project, hits the nail on the head when it suggests that the Commissioners of Charities, in making the appointments to the new hospital, should not consider the question of schools, but individual fitness, based upon scientific standing. Physicians and surgeons should hold their appointments through their knowledge of the whole range of scientific medicine and their skill in meeting conditions in such a manner as will bring about the best results.



**A Manual of Surgery.** By CHARLES STONHAM, F. R. C. S., England, Senior Surgeon to the Westminster Hospital, etc. In three volumes. New York: The Macmillan Company. (London: Macmillan & Co., Ltd.) 1900.

This new book on surgery from the Macmillan Company is a terse, well-written, compendious manual of surgery and surgical pathology. It is designed for the use of practitioners and students of medicine, and amply meets the needs of those who want to find something in a hurry and something that is valuable to them. The whole domain of surgery is covered in these three volumes, and it is essential material that is found in these pages.

**Progressive Medicine.** Volume I. March, 1900. Edited by HOBART AMORY HARE, M. D. Contributors to Volume I.: Dr. Alexander D. Blackader, J. Chalmers Da Costa, Ludvig Hektoen, Frederick A. Packard, Robert L. Randolph, A. Logan Turner (Edin.). Lea Brothers & Co., Philadelphia and New York. 1900.

The appearance of volume I. of *Progressive Medicine* for 1900 marks the beginning of the second year of the publication of these books. The success of the books in the past year is a sufficient index of the necessity for publication of this up-to-date method of keeping the physician in touch with recent medical progress in all lines. This volume is a good one for the initial number of the year, for it deals with such absorbing subjects as the infectious diseases, giving all the latest work along these lines, sifted down, abstracted and criticized in a scholarly manner by the respective editors. These books are valuable to every doctor who wants to be abreast of the times and thereby give his patients the benefit of all that medical science knows.

**Metaphysics.** By BORDEN P. BOWNE, Professor of Philosophy in Boston University. Revised edition from new plates. New York and London: Harper & Brothers, Publishers. 1898.

This book is a short treatise on metaphysics, and takes up in rational order and in a masterful manner the various phenomena which enter into a study of a subject of this kind. Books on metaphysics are in demand just now, for the reason that the community as a whole are interested in this subject to an extent never equaled before. The influence of the German is becoming felt in this country and in all the English-speaking lands, and so it is that we find places for English books on psychology.



Prof. Bowne's work is a good one, and we can recommend it cheerfully to those readers who are interested in this subject.

**Imperative Surgery, for the General Practitioner, the Specialist, and the Recent Graduate.** By HOWARD LLIENTHAL, M. D., Attending Surgeon to the Mount Sinai Hospital, New York city. With numerous illustrations from photographs and drawings. New York: The Macmillan Company. (London: Macmillan & Co., Ltd.) 1900. Price, \$4.00, net.

This book is designed for the use of those who are sometimes called upon to perform surgical operations without having had a good surgical training. It deals only with emergency surgery and surgery which must be performed "in a hurry." The book is written by a competent surgeon and one thoroughly versed in surgical technique. It is really a valuable book for the class enumerated above. The plates are excellent. They are all well placed in relation to the text. One plate particularly that calls forth commendation as a common-sense feature of the book is the representation of the humane way of holding a patient during the excitement stage of anesthesia, and another on this order is the one illustrating how to carry a patient in the arms.

**The Theory of Thought: A Treatise on Deductive Logic.** By NOAH K. DAVIS. New York and London: Harper & Brothers. 1898.

Noah K. Davis, of the University of Virginia, adds another volume to the subject of the theory of thought. He has recognized the importance of a knowledge of the science of deduction, and has written a treatise on the subject which will serve as a good guide to those desiring to acquire a knowledge of "thinking" properly. It is comprehensive and is clothed in readable language, an essential quality for a work of this kind.

**Theory of Thought and Knowledge.** By BORDEN P. BOWNE, Professor of Philosophy in Boston University. New York and London: Harper & Brothers, Publishers, 1899.

Professor Bowne has given us in this work a practical treatise on how to think, how we should not think, and how erroneous many of us are in our method of thinking. It is written as a contribution to the study of logic and metaphysics, and it will be of great usefulness to all who read it. The subject is a good one, the author is a philosopher, and naturally the book, which is the product of his thoughts, is also a good one.

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**Sir Thomas Grainger Stewart, M. D., F. R. C. P. E., F. R. S. E., LL. D.,** died February 3, 1900, at his house, 19 Charlotte square, Edinburgh, aged sixty-two years. He was Physician-in-ordinary to the Queen for Scotland, Professor of the Practice of Physic, University of Edinburgh, and President of the British Medical Association at the Edinburgh meeting of 1898. Sir Thomas was distinguished for his researches in diseases of the kidneys, and was an acknowledged authority on this subject. He belonged to an interesting group of medical men fast disappearing and which lent luster to the guild.

## SURGICAL SUGGESTIONS.

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**Sticher** suggests the use of cumol in the preparation of catgut and hemp for use as ligature and suture material. The catgut is dried at  $70^{\circ}\text{C}$ ., immersed in cumol placed in a vessel on a sand bath, at  $155^{\circ}\text{C}$ . It is then transferred to petroleum benzin and alcohol, in which it is kept until ready for use.

**Can Brushes be Sterilized?**—Boiling brushes in a one per cent. solution of soda and keeping them in a solution of sublimate, 1 to 1000, is a good and effective means of sterilizing them. This process kills all the pathogenic species, but does not necessarily get rid of unusually resistant spores.

**Fracture Disorders.**—Eisendrath thinks hinged splints are better for fractures, as favoring the active motion of the patient at the stage when motility must be provided for.

**Gastrectomy.**—Harvie reports a successful operation for relief of carcinoma ventriculi—gastrectomy.

**Opening the Pericardial Sac.**—The opening of the pericardial sac is best made by incising at the junction of the diaphragm and the costoxiphoid articulation. This makes a dependent drainage, and injury to the pleural sac is thereby avoided.

**Hemostatic Value of Suprarenal Capsule.**—Suprarenal capsule is a good hemostatic, and facilitates and increases the efficacy of cocain anesthesia by controlling the hemorrhage, thereby preventing the quick loss of anesthesia from cocain ordinarily brought about by a profuse flow of blood. **Any solid tumor** in the pelvis may produce pressure symptoms on the hollow viscera: the bladder, urethra, ureters, and the rectum; on the blood vessels, resulting in edemas and varicosities of the legs and pelvic organs; finally, pressure may be exerted on the nerves.

**Atmokausis.**—Schlutius has practiced intrauterine injections of steam for the relief of hemorrhage. It is a good procedure, and would be still better could we but control the action of it, for sometimes complete obliteration of the uterine cavity follows its use.

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**On the Relationship Between Gout and Rheumatism.**—Gout in one generation is apt to be followed by rheumatism in the next generation, or, reversing the process, the children of rheumatic parents often become gouty. Charcot calls it the "arthritic background" which forms the basis for the two conditions: It is a basic arthritic diathesis, according to Mr. Hutchinson.



## MEDICAL NOTES.

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**Bilharzia Ova.**—*Bilharzia hæmatobia* (Cobblad) is a trematode in which the male and female reproductive organs occur in differentiated individuals. It exists as a human parasite, and is found sporadically all over Africa. The eggs are found mainly in the urinary bladder. The changes produced by the presence in all the urinary organs, the kidneys, etc., are called "bilharzial infarction." Bilharzia disease tends to precipitate all the elements in the urine that may bring about the formation of calculus.

**The Holmgren Wool Test.**—Another example of the inutility of the Holmgren wool test for color blindness is seen in the case of the officer of a steamer who was unable to distinguish between white and green lights, and who consequently narrowly escaped running down another vessel. The man had previously passed the Holmgren test of matching colored wools.

**The Etiology of the Nausea and Vomiting of Pregnancy.**—The rhythmical contractions of the uterus are responsible for the rhythmical occurrence of nausea and vomiting of pregnancy. The essential exciting cause for nausea and vomiting of pregnancy is, therefore, very frequently the physiologic contractions of the muscular fibers of the uterus.

**A Pre-Jennerian Vaccinator.**—Jesty, a farmer in Dorset, England, performed vaccination on his wife and two sons from cow-pox as a protective against small-pox in 1774, twenty-two years before Jenner's first vaccination.

**Rickets in the Children of Boston.**—Statistics drawn up by Dr. John Lovett Morse show that eighty per cent. of the poorer children under the age of two years living in the city of Boston are the subjects of rickets.

**A Case of Dermatitis Venenata.**—W. J. Munro reports a case of severe and extensive dermatitis due to the application of ordinary ivy leaves to the feet for relief of corns.

**Detachment of Corneal Epithelium.**—J. A. Menzies reports a case of detachment of the corneal epithelium due to injury from a cricket ball five years previously. The cornea was scraped under cocaine, and a perfect cure resulted.

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**The Practical Application of Largin in Diseases of the Eye.**—S. Stephenson (*Brit. Med. Jour.*, March 17, 1900) reports the results of his work with largin, which was used as a substitute for silver nitrate, in superficial eye disorders. Used in the form of a ten per cent. solution, largin gave brilliant results in twenty cases of acute contagious ophthalmia due to the Koch-Weeks bacillus, rapid cure following its use. In gonorrheal ophthalmia, largin proved distinctly inferior to nitrate of silver. It is much less painful than nitrate of silver, but if used for any length of time it causes an indelible light-brown staining of the palpebral conjunctivæ.

## ABSTRACTS.

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**Some Remarks on External Urethrotomy.**—Reginald Harrison (*The Lancet*, March 17, 1900) remarks that the operation of external urethrotomy is especially applicable to the following classes of cases: 1. Resilient and rapidly contractile strictures of the deep urethra. 2. In cases where the wound of internal urethrotomy would be out of all proportion to the natural drainage possibilities of the urethra. 3. Cases of stricture complicated with urinary fistulæ and sinuses. 4. In cases of stricture with extravasation of urine. In the performance of external urethrotomy he attaches great importance to the following points: 1. The use of a guide. 2. The utility of internal urethrotomy as an immediate preliminary to the operation of external urethrotomy. 3. The more efficient provision for drainage.

**Hæmophilia in the Negro.**—Walter R. Steiner (*Bulletin of Johns Hopkins Hospital*) reports a case of hæmophilia in the negro. The family history shows the patient's maternal great-grandmother to have been a bleeder. She had eleven children, five of whom died young. The remaining six, four males and two females, were bleeders. The patient's mother was a bleeder, as were also her two brothers and one sister. The following facts are noted: 1. The fertility of bleeders' families. 2. A large percentage of bleeders die early. 3. Both males and females were bleeders, which is contrary to the usual custom. 4. A preponderance of male bleeders is seen in two families. 5. The tendency was transmitted in each case through females.

**Mercuriol in Diseases of the Eye and Ear.**—Dr. Eugene Smith, of Detroit, Michigan, reports the following: About one year ago I commenced to use mercuriol as a germicide in the treatment of diseases of the eye and ear. I experimented with solutions of various strengths, and finally settled upon a five per cent. solution, made fresh every three or four days, as best adapted to representative cases.

In ulcers of the cornea, ophthalmia neonatorum, lachrymal affections, and suppurative otitis media—either acute or chronic—and as an antiseptic lotion after operations upon the eyeball or lids, and after mastoid operations, I have found solutions of mercuriol to be entirely satisfactory. In fact, mercuriol has largely taken the place of all other antiseptics in my practice. I inject its solutions into the middle ear, and apply them freely to the conjunctivæ. It might be well to state that at the time of application no smarting is felt, but after the lapse of fifteen or twenty minutes a burning sensation comes on and continues for half an hour in some patients, while others experience no discomfort at all.

Mercuriol acts admirably in eczema aurium, when applied as an ointment of from two and one-half to five per cent. strength, and made up with lanolin and vaselin as a base.

I consider mercuriol a very valuable addition to our armamentarium.



## THERAPEUTICS.

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**The Treatment of Acute Articular Rheumatism.**—The treatment of acute articular rheumatism has lately undergone some decided changes, owing to the newer hypotheses which have been advanced in explanation of the causation of this disease. From all reports which have been made on this subject, it might be safely concluded that rheumatism is an infectious disease, due to a specific micro-organism. Just exactly which bacterium is the cause of this disease has not yet been settled, but it will, doubtless, be demonstrated in the near future. Achalme has described a bacillus which he found in a number of cases of acute articular rheumatism. Bettencourt (*Arch. de Med.*, tome 2, No. 2) found this bacillus in one case of acute articular rheumatism, from blood cultures. Carrière (*Compt. rendu de la Soc. de Biol.*, July 8, 1898) found the same micro-organism in the pleural fluid of a case of acute articular rheumatism complicated with pleurisy. From these accounts it can be seen that the work in the direction of finding out the cause of this disease has been inspired by the old theory that rheumatism is a microbic disease. The whole character of the disease, its manner of attack, its manner of action once it has attacked an individual, and the ultimate result, all serve to remind us that the disease has all the ear-marks of an infectious disease.

Having then shown the probable etiology of the disease, we may look toward the drugs upon our dispensing shelves for the relief of the condition. It is a fact well-known to therapeutists that there has been advanced as yet not a single drug which accomplishes all that is desired in the treatment of acute articular rheumatism—*i. e.*, primarily, relief of pain, abatement in the general symptoms, reduction of the bodily temperature, and subsidence of the joint swelling. These are four points to be borne in mind in dealing with this disease. It is essentially a disease of an infectious nature, and so demands for its amelioration drugs which are potent for good in relieving infectious disorders. The etiology of the disease gives us a clue in our treatment. We must fight the disease with weapons of an anti-bacterial nature. We must select from our armamentarium of remedies those which are useful in the treatment of other infectious diseases of insidious nature, such as la grippe, pneumonia, etc. In Liquid Antipyretic (Tilden's) we have combined an array of drugs which are rationally indicated in all infectious diseases, such as those enumerated above. Time and experience with this remedy in the treatment of such conditions have proved its worth. Through the kindness of Dr. R. F. Amyx, assistant superintendent of the St. Louis City Hospital, a trial was given of Liquid Antipyretic (Tilden's) in the wards of that institution. Owing to the interest which has lately been evoked as regards the cause of this disease, the preparation was used mostly in cases of acute articular rheumatism with the design of ascertaining whether good could be accomplished through its use in this disease, inasmuch as it was known to be efficacious in the treatment of other infectious maladies, and, reasoning from analogy, it should be efficacious in the treatment of acute articular rheumatism, if that disease were really an infectious one. After a careful

trial the decision was given that better results had been achieved through the administration of Liquid Antipyretic (Tilden's) than had been the case with any other preparation used in the treatment of that disease. After a few doses, the pain was relieved, the temperature dropped to normal, and remained so, joint swelling decreased in a day or two, and a better feeling of a general nature followed. In short, the results obtained more than fulfilled the objects hoped for in battling with this disease. A history of one case might prove interesting, as showing exactly the character of the cases treated and the results obtained through the use of Liquid Antipyretic (Tilden's).

CASE.—A. G., aged fifty-one years. Admitted to St. Louis City Hospital March 14, 1900. Family history: One brother died of tuberculosis pulmonalis; father and mother living and in good health. Previous history: Had usual diseases of childhood; no serious illnesses during adolescence or adult life. Habits: Chews and smokes tobacco in moderation; drinks to excess occasionally. Being a carpenter by trade, he is frequently exposed to the elements and has frequent attacks of bronchitis. Present trouble: began one week before entering the hospital as chill, rise in temperature, swelling of the left knee and ankle, pain in these parts, especially on motion. Examination revealed the existence of pronounced swelling of the left knee and ankle, reddening about the joint, pain on palpation. Temperature, 103°; pulse, 120; respiration, 30; urine analysis showed presence of trace of albumins. The patient was put to bed and Liquid Antipyretic (Tilden's) prescribed in teaspoonful doses, repeated every four hours. In the evening the temperature had dropped two degrees; patient rested well. On the following day the temperature became normal; pain had almost entirely disappeared. The next day saw a diminution in the joint swelling. After five days' treatment the patient left his bed, and is now entirely recovered. Similar results were obtained with other cases. Improvement followed immediately upon the administration of Liquid Antipyretic (Tilden's). The preparation is peculiarly adapted for the treatment of acute articular rheumatism, in consequence of its antipyretic, analgesic, and antibacterial properties. It is especially commendable by reason of the fact that no cardiac depression follows upon its usage. G.

**Iodomuth.**—Iodomuth is one of the new antiseptic powders which promises to gain an enviable place in the armamentarium of the surgeon. It is a dry antiseptic healing powder, which has no disagreeable odor, and it possesses all the good properties which most of the other powders now in use sadly lack. It is a quick healer, and will be found to be efficacious in healing up old ulcers, abrasions, venereal sores, etc. The following case is one of many wherein its value was clearly demonstrated:

After a fall through hatchway, man suffered severe abrasion of the right arm and forearm, the skin being denuded for quite a considerable area. The arm was cleaned with warm water and dried, after which iodomuth was dusted over the abraded surface. It was then covered with sterilized gauze and cotton and bandaged. The bandage was removed after two days, and the surface was found to be entirely healed. This was a good test of the antiseptic and healing properties of the powder.

Other cases might be mentioned which would testify to the great value



of this powder in the hands of the practical surgeon. It will be found very useful in drying up chancroids.

**A Contribution to the Therapeutics of Pepto-Mangan, "Gude."**—Dr. Ludwig Pohl, city physician of Vienna, Austria (*Aerztlicher Central. Anzeiger*, Vienna, Austria, September 20, 1899), was led to make an extensive examination of this preparation, by the fact of its causing no digestive disturbance, and always resulting in improvement. The combination with manganese and peptonizing of the solution render it more active in removing the hydrogen sulphid from the intestine, and more assimilable and readily convertible into hemoglobin. His cases were among the poorer class, where it was impossible to enforce dietetic and hygienic measures. Numerous cases of chlorosis, anemia, neurasthenia, and hysteria, and two cases of malarial cachexia were treated. To demonstrate the effect of this treatment the following case is reported: A girl, sixteen years old, was affected with marked chlorosis. The disease was of two months' duration and attended with general functional disturbance; mental anxiety, muscular weakness, loss of appetite, headache, difficulty in breathing, etc., being present. Patient menstruated at fifteen, but scantily and irregularly. Pallor of skin and mucous membranes marked, pulse 110. Per cent. of hemoglobin, 35; number of red cells, 5,700,000 per cubic millimeter; white cells not increased. A mixed diet and abundance of fresh air were advised, and the patient given three teaspoonfuls of pepto-mangan daily. At the end of four weeks' treatment the per cent. of hemoglobin was 75, and the number of red cells 4,900,000. The author says that such results are the rule in chlorosis. "And it may be assumed with certainty that the above described effect is attributable to the high absorbability of this preparation as compared with numerous other chalybeates, and, further, to the combined action of iron and manganese upon the blood-forming organs." He says: "I have treated more than one hundred cases of chlorosis with Gude's pepto-mangan with as good results as those described above, except that in some instances the results did not appear as promptly." It is useful in lukemic states. He says, further, that he prefers it to any other iron preparation in all conditions where it is necessary to improve the quality of the blood.

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**Is Monaghan Post-Office a Center of Disease?**—Mr. MacAleese says that Monaghan Post-office is a center of disease. Mr. Hanbury, of the treasury, declares that it is not. Mr. MacAleese says that the excessive prevalence of disease at present in the town is due to the distribution of infection through the post-office. Mr. Hanbury declares that the official records show that the health of the staff is distinctly above the average. Will any reader say where the truth rests? It is unseemly that two legislators should only be able to bring off a "draw" in a contest of this kind.

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### THE SIDE-CHAIN THEORY OF IMMUNITY.

With the rapid advances that have been made in the past few years in the direction of artificial methods of immunization by means of injections of prophylactic and curative blood sera, it has been a natural fact that the explanation of the wondrous changes brought about by these sera has been cloudy and inexplicable to the most philosophic of those whose daily work it is to prepare and manufacture these sera. Many different theories have been advanced in explanation of these phenomena, but each in turn has been exploded.

The most rational of all is the theory lately advanced by that master of his craft, Ehrlich. It promises to fulfill all the conditions necessary for the firm establishment of any scientific theory on solid foundations. This hypothesis is based on a chemical theory of the action of poisons. The protein molecule is composed of atoms or radicles combined in a complex manner to form the whole. They are expressed by the chemist as "side-chains," and are connected in various ways with the central nucleus, which binds all the radicles together into a single, complex system of atoms. These atoms or radicles can be split up, can be increased in number to form new combinations, and the direction of the cleavage will depend on the conditions under which the splitting takes place. These complex radicles, according to Ehrlich's theory, are necessary for the functional activity of the body. Chemical poisons in contact with these radicles cause their increase in number, according to the biologic principle of "functional hypertrophy." The functional activity of the cells is called forth



by contact with these poisons, an excess of side-chains is produced, and this excess appears in the circulating medium as antitoxin.

This theory can explain many of the phenomena of immunity. For instance, "natural immunity" can be explained by the fact that there is an absence of side-chains having an affinity for a particular poison to which the animal is said to be "naturally" immune—*e. g.*, when atropin is given to rabbits no bad effects are to be seen. "Active immunity" is conferred on an individual by giving him small doses of the poison; in that way side-chains are given off in gradually increasing proportions, and in that way immunity is gradually conferred on the individual.

This theory is a magnificent attempt to coincide the clinical and experimental laboratory findings with known facts of physiologic chemistry, and we are confident that it will be the basis on which all future hypotheses about this kind of work will be grounded. Ehrlich should win a worldwide reputation merely from the promulgation of this theory, if he has done nothing else for the cause of science. The theory promises to live long after him and to be worthy of the name of a great discovery, even if it is only a working hypothesis.

### THE IMPORTANCE OF EARLY TRAINING IN CHILDHOOD.

We recognize that physical disease is the basis for many forms of insanity. We know that the existence of a physical ailment in early years is apt to render an individual more or less susceptible to morbid psychic phenomena, which amounts to a form of insanity of some kind or another. We also know that the most exquisite development of the moral and mental attributes of man depends upon the complete subjugation of the will to the best influences of environment, such as an early training in obedience, a fostering of that part of the intellect which shows evidences of weakness—in other words, the *abnormal* development, if you please, of some phase of education in which the child appears to be deficient. This means that, in order to have the most perfect intellect, a child which appears to be deficient in some branch must not be allowed to continue to be deficient. He must be forced, if you will, to take up that branch that he abhors. He must be trained to bow the knee to the inevitable. He must be shown that all his faculties must be equally trained in his younger years; for, unless this is done, the bad consequences will be seen in his adult life, when we will become acquainted with him as an "erratic" individual, one who is brilliant in one direction and wholly deficient in another. We can thus account for the erratic individuals whom we see from day to day. They are the victims, as a rule, of improper early training. They have been allowed to follow their "natural bent," as we say. We contend that this wholesale manner of allowing children to do as they will, particularly in regard to their education, is productive of the most direful consequences. It is true that nature occasionally makes a strong and determined attempt to restore equilibrium in these cases by making that individual train himself later independently, but the reverse is more often the rule.

And so it is with their disposition, their temperament, and their habits. Once allow a child to have its own way where it is wrong, once permit it to show resentment and dissatisfaction where something displeases it, and you will have an individual later on in life who is absolutely abnor-

mal, mentally and morally speaking. They are the people who "fly off the tangent" at nothing; they are the neuropathics who are beginning to fill our insane asylums. Free use of the will before the proper time paves the way for mental aberrations later on. It is the wise parent who carefully looks to this side of his duties—*i. e.*, the proper training of his child—so that his moral and mental tendencies will be begun in the right way.

### THE BACTERIAL THERAPY OF YELLOW FEVER.

It seems to be an established fact that the bacillus icteroides is the cause of yellow fever. This statement is founded on the findings of Sanarelli, Wasdin, and Geddings. In addition to his discovery of the bacterial cause of this disease, Sanarelli advocates the use of his "anti-amaryllic" serum in the treatment of yellow fever, saying that it is an antitoxin prepared from toxins of the bacillus icteroides, and that it is curative for man. The observations of others, however, tend to disprove Sanarelli's claims for his curative serum. Dr. Chas. B. Fitzpatrick, of the New York Health Department, gives the results of his work along the line of the bacterial therapy in the *Journal of the American Medical Association* for April 14, 1900. His experience in this direction is confined to the following: (1) The use of the blood serum prepared from the bacillus icteroides of Sanarelli; (2) the use of the toxin of the bacillus icteroides employed as a vaccination fluid, and (3) the use of a prophylactic fluid, after Haffkine's methods, from the bacillus icteroides and the colon bacillus found at autopsy in the liver and heart's blood of yellow fever patients. This serum was used on four patients at the Swinburne Island Hospital, eight at Vera Cruz, and one at Havana. The results indicate that the serum does not cure or modify the course of the disease in any way.

Archinard, of New Orleans, and Lutz, of Santos, Brazil, also report unfavorably on the use of this serum. In short, the serum therapy of yellow fever is still in the stage of investigation, and does not appear to warrant any conclusions other than that the blood serum of the bacillus icteroides does not cure or modify the disease. As Dr. Fitzpatrick truly says, further investigation is necessary. A subject of this kind needs the most exhaustive experimentation and practical trials before positive statements can be made. If the saying that "Rome was not built in a day" finds its parallel anywhere, it is in the confirmation of a bacteriologic discovery; and so we must rest content for a little while at least with the greatness of the discovery of the true cause of yellow fever, while in the meantime further investigation can be made into the subject of the serum therapy of the disease. That it will ultimately be found is quite probable, and when it is found we will hail it with acclamation; for a discovery of a therapeutic agent of that kind means the annual saving of many human lives.

### TRACHEOTOMY IN OPERATIONS ABOUT THE NECK.

The performance of tracheotomy preliminary to operating in the region of the neck is an operation which calls for commendation on the part of the surgeon and practitioner. It is a fact that the embarrassment to respiration, when cervical operative work is being done, is often sufficient to cause a stoppage of the operation for a time or even its complete



abandonment when the larynx or the mouth is implicated in the proceeding. For instance, it is almost impossible to do an operation like the complete excision of the tongue for carcinoma, or the removal of the lower maxilla unless a tracheotomy is performed as a preliminary measure. By tracheotomizing the patient in these conditions all danger of faulty anesthetization is done away with, there need be no breaks in the operative technique, and thereby the surgeon can work with ease and comfort, giving his patient the best advantages with the minimum amount of danger.

### AN EARLY SIGN OF TUBERCULOSIS.

Writing under the above caption, Thos. F. Harrington (*Phila. Med. Jour.*, April 28, 1900) calls attention to the fact that he has noted a dilated state of the pupils in a number of cases which subsequently showed signs of tuberculosis pulmonalis. In other words, he claims for it a place as one of the pretubercular signs. He says that it is not a state of paralyzed pupils, but rather one which seems to be in a more or less constant state of dilation, due to some irritation along the cilio-spinal region; or perhaps an irritation of the sympathetic, brought about by some blood change associated with very early tubercular infection not yet fully recognized. The writer says that he has observed this condition many times, and that almost invariably these patients afterward showed unmistakable signs of tuberculosis.

If this state of dilated pupils is really a sign of the pretubercular stage of phthisis, it will become one of the most valuable signs yet given to the profession for the recognition of any disease, for we know that if we can recognize this dread disease in its very incipiency, much more can be done in the way of climatic treatment and medicinal régime than is the case when the disease is only recognized by the presence of the bacilli in the sputum or the onset of physical signs.

### AMATEUR SURGERY.

We are "breeding" multitudes of surgeons in these days of "hand-made-physicians-and-surgeons-while-you-wait." The moment a man begins to take up the study of medicine, as a rule, he has ambitions to become a surgeon. He carefully nurtures this idea until the moment he graduates. Then, if he is sensible, he looks around him, sees what he must do if he would succeed as a surgeon—*i. e.*, become associated with some clever and responsible surgeon as an assistant for five or ten years, then make a trip abroad for further enlightenment, and then settle down to a well-deserved surgical practice. If he is *not* sensible—and the sensible fellows are in the minority in this instance—he immediately begins to practice as a "physician and surgeon," self-styled. It is this class of men whom we desire to "hold up" for a moment or two before the profession; not, however, in the manner that they hold up their unfortunate patients, or rather victims, whom they are slaughtering year by year, but merely in a critical manner, so that the evil tendency may be more seriously thought of by the profession and measures for its relief undertaken by us. These fellows, we say, style themselves physicians and surgeons. They hesitate at nothing. Their highest ambition is to per-

form their first laparotomy on some unfortunate female whose chief complaint is constipation or some lesser malady. These fellows start on their day's work by giving quinine for malaria, then hurriedly rush off to see a case of erysipelas, then proceed tranquilly to the hospital, rip open some woman's belly and perhaps remove a normal ovary or appendix, and then wait for the patient's death. This may be an extreme picture, but it takes an extreme picture to expose this crying evil. We contend that the line between the physician and surgeon should be more sharply drawn. In England the physician is a physician, and the surgeon a surgeon. It is against all reason to suppose that a surgical patient can receive the proper amount of skill and attention at the hands of a general practitioner that he deserves. It is really criminal that a man totally unfit to do surgical work should dare to do it. In his heart he should know that he has not that proper amount of skill at his command that is due his patient, and he should refuse to perform major surgical operations when he is given the opportunity. It is an injustice to the patient, to the surgeon, and to the physician himself. Why, then, are we to be victimized by these self-styled surgeons? It is high time that the profession should take cognizance of this abuse and rectify it. The surgeon is a specialist as much as the ophthalmologist, the aurist or the gynecologist. He should be regarded in that light. Would a general practitioner dare to take eye cases? No. Any why not? Simply because he has been taught to appreciate his inability to work along these lines, and so he sends his eye cases directly to the ophthalmologist. It is because of his lack of appreciation of surgery as a specialty that he has the supreme conceit to handle surgical cases as they come to him. We say that it is not right, and that it should be stopped.

The other side of the picture also deserves attention. Granting that surgery is a specialty, why should the surgeon handle medical cases? He should not. It is unjust to the medical practitioners that the surgeons to whom they send their surgical patients should attend medical cases which they are called to see. The surgeon should practice reciprocity. He should turn over his medical work to the practitioner, for the same reason that the practitioner should turn over his surgical work to *him*. In that way the community will receive the best possible attention at the hands of the medical profession. We can explain the horror and fear that the laity feel when they think of the performance of a surgical operation by the fact that they have been terrorized by the countless "amateur surgeons" who have plied their trade with such a vengeance that the most distasteful thoughts of surgery have been instilled into their minds because of the many disastrous consequences that have followed their "feats" of surgery. In this day of ours the whole secret of success should be the efficiency of service in one line, and not mediocrity or inferiority in all lines. It is the survival of the fittest. Call a halt on this butchering and let's settle down to business. The surgeon is a specialist, and the medical man is a specialist. If this is borne in mind conscientiously, the matter will adjust itself.

#### THE HEALTH OF PARIS.

From all accounts, it may be well for American visitors to be careful about drinking water when they visit Paris this summer for a glimpse of



the Exposition. It is known now that Paris has been the scene of an epidemic of typhoid fever during the past winter, and the cause of it is to be found in the polluted water which comes from the springs lately tapped for the purpose of increasing the capacity of the water supply of the city. These springs were pronounced satisfactory in the beginning, but the mortality tables show that they are not. It is also noteworthy that the committee which is looking after the health of the city, now sitting at the Hotel de Ville, reports that the sewers will be inadequate to remove the immense amount of sewage which will accumulate with the influx of visitors during the summer months. It is comforting to know that the committee have reported unfavorably on the proposition to turn Seine water into the Paris water-works, as it was remembered how the number of cases of typhoid fever increased when that was done before. A note of warning has been struck from Paris itself about this danger, and so visitors must take heed.

### DEFEAT OF THE FILTRATION BILL.

The Committee on Ways and Means of the House of Delegates handed in their report to the House on Friday evening, and recommended that the bill authorizing the Board of Public Improvements to expend \$50,000 for preliminary and experimental work for filtration of the St. Louis water supply be rejected and a new one drawn up looking towards the immediate installation of a filter plant at the St. Louis water-works. The Committee on Ways and Means, in "smooth" and in surprisingly good language for members of a House famed for the number of saloon-keepers and dive frequenters in its personnel, said, substantially, that they could see no reason why the city should expend money in filtration experiments; that there were but two kinds of filters, the English sand filter and the American or mechanical filter; that the choice lay only between these two kinds; that other cities, it is true, were doing experimental work as a preliminary measure, but that the city of St. Louis did not have to follow in the wake of other cities; and, finally, they showed a part of their scheme by declaring that the people who had urged the passage of this bill were unduly alarmed, were too forcible in their attempts to "force the passage of the bill," and that it was merely a scheme on the part of local engineers to obtain employment in work of this kind. The House, on motion to adopt the recommendation of the committee, did so almost unanimously, there being but four opposing (opposing in this sense means honest) members. Cries of "boodlers," etc., rent the air as the result of the vote was announced.

By defeating this bill the members of the House laid themselves open to the determined opposition in all future time of the representative citizens of St. Louis. They understood perfectly that it was the will of the people that this bill should be passed; they understood that the bill implies all that the Board of Public Improvements has striven for years to develop, with the end in view of giving St. Louis and her citizens the very best that could be obtained in the way of pure water; they understood perfectly the prime necessity of the thing, and they have killed the bill. If the threats of the community have any intent in them, if the representative citizens who endorsed this bill will do what they said they will do, the defeat of this bill by this corrupt House will really redound to the ulti-

mate benefit of this city, for it will mean that at the next polling time the best of our citizens *will get out and work*; that they will place in nomination no one who has been a member of this House at this time; that a better class, men not engaged in "booze traffic," will be elected, and that sooner or later the bill will pass on its merit. This is not a final defeat; it is the end of the first round; the decision goes to the House, of course, but the odds are 100 to 1 that *the people* will win; that it will be no draw, but that we shall have what we want if it takes years to get it. The concerted move on the part of the House to defeat this bill can be explained in only one way: that by the passage of this bill "there was nothing in it for them," whereas, by its defeat, there *was* something in it for them. How much there was "in it" for them we cannot say. We can surmise, however, that a good round sum was distributed to these mock legislators, these poltroons who hold public office to fleece the people who elected them. They hold the winning hand now, but who knows when the deal will go to the next? Let them beware of the political situation in Cleveland, Ohio, where a vast political reform has taken place; where the citizens, long oppressed and deceived, rose in their might and smote the thieves who held public office and ultimately filled their offices with honest men. The situation can be changed, and it *will* be changed. These men have virtually signed their own death certificates by defeating this bill and opposing what the people want. They have defied us; they have thrown down the gauntlet; they shall see that it will be taken up in due and proper time.

### CEREBRAL LOCALIZATION.

The matter of cerebral localization has received great attention at the hands of the profession in these latter days of progression in medicine. A great deal has been done by the surgeon in pathologic conditions about the cranial cavity and brain, through the help given them in problems of diagnosis by a knowledge of cerebral localization; that is, by means of motor and sensory signs which tell him that such and such a lesion is located at the centers governing the movements and sensations of particular parts manifesting these signs. Thus, when a diagnosis of brain tumor is made, the practitioner tells what part of the brain it impinges upon by certain signs. If he has spastic phenomena affecting the muscles of the face, arms and legs, it is probable that the tumor is impinging upon the cerebral space known as the internal capsule, where the motor fibers going to these parts are running close together. And so it is with other signs and place. And yet, too much reliance must not be placed on these signs as invariably indicating the site of the cerebral lesion. A certain center may be affected, and yet may not manifest its presence there by a single sign due to implication of that center. Again, a center may be affected and may display anomalous signs indicating to the clinician that the lesion is situated in some other center, which it is not. Dr. Sydney Kuh read a paper on this subject before the Chicago Neurological Society, on March 7, 1900, in which he devoted himself particularly to the uncertainty of cerebral localization, illustrating it by mentioning a number of interesting cases. He mentioned one case where an angiosarcoma had entirely destroyed the vermis superior cerebelli without any topical symptoms; one in which a psammoma of the hypophysis, in place of causing



acromegalia, was associated with stunted growth; and, finally, a case of Jacksonian epilepsy due to cerebellar abscess, the epileptic movements being on the *same side* on which the abscess was found, and no cerebellar symptoms existed. The author also gave the history of a case of laryngeal spasms caused by cortical disease; this patient presented motor aphasia, with a right hemiplegia later on in the course of the disease. Examination of the fundus of the eye showed an atrophy of both optic nerves.

### IODOPHILE LEUCOCYTES IN BLOOD DISEASES.

Hematologists are now working with an iodine stain for blood. It is said that leucocytes taking the iodine stain are only met with in grave affections with unfavorable prognoses, such as anemia gravis and perniciousa, and vanish as the prognosis becomes more favorable. The iodine reaction is positive in leucemia and negative in pseudo-leucemia. This stain promises, therefore, to become of great value, not only as a diagnostic means, but in a prognostic way. The combination of two such qualifications as that will surely make it invaluable to clinical laboratory workers. L. Hofbauer has obtained exceptionally good results with this iodine stain.

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**Euthanasia.**—There would seem to be a consensus of opinion among philosophers and sages that the act of dying is in nearly every case a painless one. Professor Nothnagel, of the Viennese University, in an address delivered to the Society of Authors and Journalists of Vienna, a few days ago, gave a *resume* of the various views and theories that bear upon the subject of dying, but it must be remarked that he had nothing really new or original to say about it. Systemic death occurs when the heart ceases to beat, and whatever physical pain or dread may have been experienced prior to that moment, the actual cessation of living is quite pain-free. In almost every imaginable case, said the professor, consciousness ends before the heart ceases to beat. In the case of a gunshot wound of the heart, for instance, the action of the bullet is more rapid than the message which announces it to the brain, and, in fact, the message never reaches the brain in such a case, so that the death is certainly painless. On the field of battle a man may continue to fight in ignorance of the fact that he is wounded mortally, when suddenly he drops and dies, sometimes without even realizing why he falls. The speaker stated that in the case of prussic acid poisoning systemic death is so rapid that the brain is dead before the heart has ceased to beat, so that for a fraction of a second there may be pain before the heart stops. In acute fevers death is probably painless mentally as well as physically, for the brain is too dulled with its venous blood to experience the sensation of pain. After long, debilitating illnesses and in very old age the mind has become apathetic, the higher central functions are in abeyance, and death, the result of natural decay of vitality, comes as a welcome guest. The lay papers do not report any remarks bearing on death by hanging, which, of course, is the criminal's death in England. It is probable that hanging is quite painless, too, for the cord must press on the carotid arteries first of all, and thus cerebral anæmia and instant coma are produced, so that no pain can be felt when the cervical spine is fractured, and the damage to the respiratory center in the bulb insures a sudden and prompt syncope.—*Exchange*.

## ORIGINAL ARTICLES.

### ON ISCHÆMIC PARALYSIS AND CONTRACTURE OF MUSCLES.<sup>1</sup>

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A LONG intervals the literature of medicine is adorned by a contribution from a master hand which not only marks an advance in our science, but which also is a work of art from a literary standpoint. Papers of this kind are sometimes epoch making. Others, because they are complete and leave no room for discussion, do not mark an epoch in the literature of medicine, but become no less potent in their final influence upon the actions and views of physicians and surgeons.

A paper of this latter kind is the wonderful memoir by Prof. E. Leser, which was first published in *Volkmann's Klinische Vortraege*, Surgical Series, No. 77, whole No. 249, under the title of "Untersuchungen über Ischemische Muskellähmungen und Muskelcontracturen." It is my intention to give in this paper a short résumé of this subject in a historical way and then to add my own observations and conclusions. In the introduction I will follow Leser, as he has looked up the subject thoroughly. I desire to say that this subject is of the greatest practical importance to all surgeons, because it explains fully and in a satisfactory manner the bad results which often follow the treatment of fractures by means of hard and tight splints or unyielding plaster of Paris bandages which have been improperly applied.

The fact that muscles become paralyzed and stiff in consequence of interruption of the blood supply is one which has long been known to physiologists. In his work, "Elementa Physiologicæ" (Lausanne, 1766, page 544), Albrecht von Haller states that Stenson was the first to make the experiment of tying the abdominal aorta in a warm-blooded animal. Stenson observed that the posterior extremities were paralyzed a very short time after the ligation. Shipper and many other physiologists have found that this experiment was faulty because it also cut off the blood supply from the spinal cord below the point of ligation. If the ligature was loosened soon afterwards mobility returned to the muscles, but if permitted to remain in situ perfect stiffness of the muscles followed inevitably. The muscles become rigid and hard and remain so. I varied this experiment slightly by ligating both common iliacs and ligating the aorta itself a short distance below the bifurcation where in tailless animals it is called sacralis media. The effect was the same and has been found similar by many experimenters when ligating the vessels supplying solitary muscles. The result which Kühne arrived at may be stated as follows: The loss of irritability, the paralysis of the muscle, finally the rigor of the muscle is a con-

<sup>1</sup> Read before the Kansas State Medical Society.



sequence of the inhibited nutrition; the latter is caused by the interference with the circulation. (W. Kühne, "On the Movements and Changes of the Contractile Substances," in the *Archives for Anatomy, Physiology, etc.*, edited by Reichert and Du Bois-Reymond.)

Richard Volkmann, the great surgeon and the first apostle of Lister in Germany, sought to elicit the interest of practitioners in these remarkable observations made by physiologists. He was the first who saw that the restricted circulation is the cause of the grave contractures and paralyzes of the hand and fingers which are sometimes seen after the application of firm, unyielding bandages and splints to the forearm.

The first remark on the subject in literature is found in Volkmann's book on the diseases of the organs of locomotion (Pitha-Billroth "System of Surgery," Vol. II.). I quote him literally, *i. e.*, I translate: "The severe contractures of the hand after the application of too tight bandages upon the forearm in cases of fracture depend largely upon an inflammatory contraction of muscles and not upon primary nerve paralysis, the result of pressure. We know that these cases of Greifenklaue ('Main en Griffes'), claw-like stiffness of the fingers, offer a most hopeless prognosis. The flexed contracture of the fingers and of the wrist persists in spite of all imaginable efforts, such as electrical treatment, passive motions and forced extensions under anesthesia; even amputation has been resorted to in extreme cases. I have never seen a complete cure and not even a satisfactory improvement, and once only a slight amelioration of the stiffness was achieved after long-continued painstaking exertions on my part. The contracture in these cases occurs rapidly and in a few weeks has reached the highest degree, which may cause ulcerating gangrene in the palm of the hand from the pressure of the finger-nails. In cases of paralytic contractures following apoplexy or nerve lesions contracture is never observed in so short a time. In spite of these facts, the physician who had the misfortune to apply too tight a bandage very commonly resorts to all kinds of passive movements and attempts at extension of the contracted fingers upon all kinds of splints. In cases of interference with the nerve supply these manipulations always suffice to prevent the contracture."

In a very similar strain, a few years later, Volkmann ("Contributions to Surgery," page 219) says: "The inflammatory or cicatricial contracture seems to be characterized by the rapidity with which it is developed, by the enormity of mechanical effects which are produced by it, and by the extraordinary resistances which it offers to our endeavors to remove the deformities, almost immediately after the inception. Many of the contractures which follow injuries, and which have heretofore been looked upon as contractures of nervous origin, depend upon inflammatory processes in the muscles, which are followed by shrinkage and cicatricial changes of the muscle tissues."

In a still more emphatic and unmistakable manner does this great surgeon express his conclusions about the etiology of paralysis and contractures in an article published in the *Centralblatt fuer Chirurgie* in 1881, No. 51:

"The paralyzes and contractures occurring on the forearm and hand, in rarer cases also in the lower extremities, after the application of tight bandages, must be called ischæmic. They arise after a prolonged press-

ure, which prevents the afflux of the arterial blood; the venous hyperemia which no doubt is very commonly present only seems to hasten the paralysis and stiffness. The paralysis is caused by the death of the primitive muscle fibers which have been deprived of oxygen. The contractile substance coagulates, falls into pieces, and is afterwards absorbed. The following contracture may be considered simply as a condition closely akin to rigor mortis, and indeed the limbs, if, as is usually the case, all the muscles of a part are equally affected by the ischæmia, assume the well known position as after death. It is characteristic of this affection that the paralysis and the contracture are simultaneous, or follow closely upon one another, while in nerve lesions of the extremities the contracture is always of slow and gradual development, and often very tardy. Months and years pass before a contraction which is not easily reduced by manual pressure is found. The ischæmic contracture, however, is recognized by the power of resistance which it opposes to any attempt at reduction from the very moment of its inception. The affected muscles have lost their elasticity and become unyielding and stiff, as in rigor mortis, even in fresh cases of ischæmic paralysis. The reactive and regenerative processes which follow the death and disintegration of the contractile substances, which are unfortunately very imperfect in man and the warm-blooded animals, make the affected muscles more unyielding and stiffer and still further increase the atrophy by cicatricial contraction. Ischæmic contracture and paralyses are sometimes observed in other cases than those following too tight bandaging. In cases of prolonged use of the Esmarch constriction of the limbs and after ligations, lacerations and contusions of large vessels, possibly also after prolonged freezing, these affections may occur, and it is possible that a part of the so-called rheumatic contractions are of an ischæmic origin."

I have given these quotations from Volkmann's writings in full because they represent all that was known on these grave and eminently practical matters up to that time. Leser says that he is really astounded and surprised that not more can be found in medical literature on these most interesting and serious troubles, because they are not near so rare as might be supposed. I can say that I have never failed to illustrate the subject clinically during the past eleven years by a number of striking instances to my hearers at the college during each winter course.

Besides the grave and extreme cases there are a large number of less pronounced lesions of the muscles which are found after removing tight bandages, which no doubt are also due to ischæmia of single muscles or groups of muscles. These peculiar affections have never been correctly explained, nor have they been carefully reported, though I think every surgeon must have met with them. The various degrees of stiffness and lack of motion in the fingers, which are so frequently found lasting for months after the removal of a splint or plaster of Paris bandage from a fractured limb, must no doubt also be classified under this head.

I desire to add that Carl Ludwig, the great German physiologist, proved by experiments that rigor mortis, death of the muscular tissues, takes place just as rapidly when blood free from oxygen is conducted through the muscle as when no circulation at all exists. On the other hand, Ludwig was able to show that when oxygenated blood was conducted



through the vessels of an extirpated, isolated muscle the rigor of the muscle could be delayed for a long time. Brown-Sequard succeeded in making muscles in the human cadaver contractile and even irritable by electric currents as long as four hours after death, when indeed the first stage of rigor mortis had begun, by injecting oxygenated blood.

These physiological experiments prove sufficiently well the effect of oxygenated blood upon the condition of the muscles, and establishes beyond a doubt that interruption of the circulation within a muscle must produce grave damages of the contractile substance, and must inevitably produce rigor mortis if continued longer than a few hours. Kraske (*Centralblatt fuer Chirurgie*, 1879, No. 12) has shown that the muscles of animals cannot stand the complete absence of the arterial blood current for six hours. I know of one case where a long-continued use of the Esmarch constricting rubber band caused loss of mobility, and several similar cases have led to damage suits, both in this country and in Europe. Ischæmic paralysis and contracture from this cause will produce a most aggravated lesion, because all the muscles of the affected limb distal to the constricting band will be ruined. This is not usually the case after tight bandaging. In these cases the ischæmia is not complete, and the amount of injury will depend upon the number of muscular fibers which become bloodless by the pressure. I have known cases where an entire muscle escaped. The case above referred to where a constricting Esmarch bandage caused ischæmia and death of the muscles, was not in a surgical case, but it concerned a case of placenta previa. The attending physicians, seeing their patient collapsed from acute anemia, resorted to the process known as auto-transfusion. Both lower extremities were raised high up and a rubber bandage applied, beginning at the toes, thus forcing all the blood into the trunk and leaving the limbs bloodless. A strong rubber tourniquet was left around the middle of the thighs or a little below, from about midnight until morning, and ether and whiskey was freely injected during this time. I imagine that these remedies deadened the sensibilities so much that the pain from the constriction was borne as long as it was—about eight or night hours. The effect of the auto-infusion was satisfactory, but the patient's limbs were entirely motionless, hard, and swollen below the middle of the thigh until she died from "prolonged shock" on the third day after her delivery.

The histological changes which are found in ischæmic contractures of the muscles have been thoroughly investigated and described by three authors. The first experiments and histological examinations were made by Heidelberg, who published his paper in *The Archives for Experimental Pathology and Pharmacy*, Vol. VIII. The next work was by Kraske, and is entitled "Experimental Researches on the Regeneration of Striated Muscle-Fibers," published in Halle, 1878. The third paper is the classical paper by Leser, published in 1884, *l. c.* Besides these, many examinations have been made of the muscles of limbs which were amputated because they were entirely atrophied and useless or had become partially gangrenous. These examinations have completely corroborated the results of the experimental researches. I have made a small number of microscopical investigations, both experimental and clinical, and I prefer

to report what I found to quoting from others, although there is no essential or important difference.

I must begin by stating that a limb which has undergone ischæmia as a result of tight bandaging will usually show all stages of the histological changes, from complete fibrous or cicatricial tissue to the ordinary lumpy disintegration of the contractile substance within the sarcolemma, as we find it in muscles which have become rigid after death. To the naked eye the slightly affected muscles will appear somewhat edematous, and will be harder than normal, and may be paler and appear almost as if boiled. The most severely ischæmic parts will be almost white and infiltrated with young gelatinous tissue.

Microscopical examination will show the fibers in an irregular arrangement of unequal thickness. Some will be twice as thick as others, and I regard these as being pseudo-hypertrophied, which condition leads to atrophy in the end. Some of the fibers appear to have vacuoles, but the most characteristic change is the absence of nuclei or their very scant presence in the primitive fibers. This decrease in the number of muscle-nuclei is striking, and oftentimes I saw a little granular detritus in the place of the nuclei, or only a few nuclei scattered alongside of the bundles of fibers. Whenever the fibers appear broadened, no trace of the transverse striation can be found. The explanation of this histological picture as given by Heidelberg is that the nutrition and life of the nuclei are destroyed by the lack of blood circulation, and that afterward when a new circulation is built up again, the dead nuclei are absorbed and carried away. In more advanced portions of the tissue leucocytes abound between the fibers; we have the picture of small round cell infiltration. This inflammatory condition of the intermuscular tissue soon changes it into young connective tissue, which eventually undergoes cicatricial contraction and assumes the structure of fibrous or tendon tissue. The muscle fibers and remnants of these finally become atrophic, fall to pieces and are absorbed. Thus as a final result of the disintegration and absorption of the muscular elements, together with the new formation of fibrous tissue, which shrinks into a cicatricial mass, we find the bellies of the muscles changed into hard fibrous and inelastic chords.

A great many cases of this disease have been observed since its clear description by Leser, and I will merely refer to one recent case, which I demonstrated to my hearers at the time of reading a paper before the Tri-State Medical Society upon this subject, and which had fallen into the hands of a deplorably ignorant professor of clinical surgery, whose name I need not mention, and who being totally innocent of a scientific education, but wishing to do something, cut down upon the median nerve. It appears that this dean of a medical college and professor of clinical surgery had never heard of ischæmic paralysis and contraction of muscles, and that, although there was total absence of faradic irritability and unimpaired sensibility, performed the foolish and useless operation of exposing the median nerve. I may add that a skiagraph had been made of the case and something had to be done. Thus may skiagraphy in the hands of the ignorant become the cause of some useless surgery.

It is impossible to report cases, as each report could be made the basis of a damage suit against a surgeon, because the terrible condition in which



the unfortunate patients are left is clearly due to tight bandaging, and the trouble thereby induced could have been avoided.

The recognition of ischæmia produced by tight bandaging, as the cause of these damaging results, will prevent them in future. Therefore, the publication of these observations and their careful study by the members of our profession is, in the opinion of the writer, a most timely warning to those who have not devoted the time and attention demanded by the importance of the subject. It has been customary to teach that pain, after the setting and fixing of a fracture in a splint or cast of any kind, was an imperative indication to remove and loosen the whole dressing. This rule was the result of experience. The reason was unknown. In other words, it was a purely empirical rule of action. The scientific basis and true reason for the adoption of this rule has been given above. Nearly every physician and surgeon of any considerable experience will not only appreciate the truth of what has been said, but if he be honest will recognize wherein he has erred and fully appreciate the wrongs he has unwittingly done. I say this from having experienced the pangs of remorse and self-accusation in two cases in which loss of the use of a limb was only ascribable to my own ignorance of the facts I have set forth above.

Among those who have seen and reported more than three cases may be mentioned:

1. Leser, *l. c.* Seven cases. (1884, Leipzig.)
2. Bardenheuer. (Traumatism of the upper extremity.) 1888.

Four cases.

3. Helferich. (Greifswald, 1893.) Three cases.
4. König. (Göttingen, 1893.) Seven cases.

These names of celebrated surgeons who have observed and written upon the subject, would seem to show that the peculiarly interesting condition is well-known and that further observations are unnecessary. As an apology for this report, I may be permitted to call attention to the fact that I can find no allusion to this subject in any of the new and comprehensive text-books or systems of surgery published recently. When it is further remembered that the subject was made a special order of discussion at the annual session of the German Society of Surgeons in 1888 in Berlin (see the Transactions, Vol. XI., 1888, Berlin, A. Hirschwald), and that its practical importance can hardly be overestimated, I feel that my work in reporting the matter in this manner will be productive of good.

The only operation or therapeutic measure that promises any appreciable benefit that suggests itself to my mind, and which I intend to try on a suitable case, is the excision of a transverse section of the radius and ulna. The piece to be resected should be from two to four cms. in length, and these long bones would be shortened just that much—the contracted muscles and their tendons could then possibly exert a greater play upon the wrist and fingers.

It is clear that the muscular tissue in the forearm would not be increased by this operation, as indeed it cannot be by any possible surgical proceeding. The effect of the operation would be to give such remnants of contractile substance as may be in existence a chance to exercise their power to a greater advantage. The function of the fingers would thus be more or less improved, and the usefulness of the crippled hand increased.

THE PATHOLOGY OF PNEUMONIA.<sup>1</sup>

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I MUST necessarily limit myself to a few general considerations. By the term pneumonia upon our programme, I take it that croupous or lobar pneumonia is meant. And, at the outset, I would like to make the point that I am of the opinion that the type of this affection has changed within my experience. I am disposed to side with those who think that the disease is changing in the direction of being less violent in its attacks and less typical and open in its manifestations. In my student days the hospital cases were common with *sudden furious outburst*, a few days of sharp pyrexia, and then a *sudden crisis*. I agree with Goodhart that we now see rather "a disease which drags on for ten to twelve days or more, and is more inclined to spread from one part of the lung to others in an insidious way. And then, too, it seems more prone to produce empyema than it used to do." The explanation lies in the association with other disease germs—the influenza bacillus, for instance. But the fact I think remains that the frank, outspoken, undisguised cases are not met with as heretofore.

From an anatomical point of view cases of acute pneumonia are divided into two principal groups: (1) Lobar pneumonia, or croupous or fibrinous pneumonia; and (2) broncho-pneumonia, or catarrhal or lobular pneumonia. The difference, essentially, is (1) in the products of the inflammation, (2) the distribution of the disease in the lung and as to the parts involved, and (3) the nature of the changes in them. Then a striking difference lies in the fact that in lobar pneumonia we have a toxemia of a specific character, a systemic condition due to a specific toxin and a self-limited course, determined by the accomplishment of immunization by antitoxin production. The anatomical detail of these two acute conditions is well described by both Rotch and Holt, and in both works there are contained numerous cuts of microscopical specimens. I would recommend that you look over these. Holt, in telling words, says that "in broncho-pneumonia the large bronchi are the seat of a superficial inflammation, while in those of small size the entire bronchial wall is affected; the exudation into the air vesicles is mainly cellular, being made up of epithelial cells, leucocytes and red blood cells, fibrin being either absent or present only in small amount. In many cases there are marked changes, both in the alveolar septa and in the interstitial tissue of the lung; resolution is often imperfect, and there is a strong tendency of the inflammation to pass into a chronic form, involving the connective tissue frame-work of the lung. The lesion is widely and often irregularly distributed, usually being most marked in the vicinity of the small bronchi, from which the inflammation spreads, and in the most superficial lobules of the lung." It should also be borne in mind that in broncho-pneumonia areas of atelectasia are frequently found. This atelectasia is produced by mechanical causes: obstruction by pus or tenacious mucus, enfeebled respiratory power, aspiration, etc. "In lobar pneumonia, bronchitis, when present, is usually superficial, the walls of the bronchi being very slightly or not at all af-

<sup>1</sup> Read before Alumni Association of Medical Department Washington University.



fect; the same is true of the alveolar septa. The principal product of the inflammation is fibrin, which fills the alveoli and the terminal bronchi, the cells being relatively few and chiefly leucocytes. The process is usually sharply circumscribed, involving an entire lobe or a part of a lobe. In most cases it clears up rapidly and completely, there being but little tendency to involve the framework of the lung in a chronic process. You are all familiar with the successive stages of (1) congestion, (2) red hepatization, (3) gray hepatization, and (4) resolution.

If now we examine into the determining causes of these two conditions, we find that the young and the aged are especially prone to the lobular form of acute inflammation of the lung. And the explanation that is very satisfactory for this finding is that in the young the narrowness of the respiratory avenues and the lessened power of resistance of the epithelial lining of the bronchi and alveoli disposes to cell-proliferation and obstruction. And in the old the lessened reflex excitability of the bronchial walls leads to choking and obstruction. This explanation must stand at the present day—in fact, is enforced by our bacteriological knowledge—with reference to the two affections.

We recognize as the exciting agent of true lobar pneumonia the micrococcus lanceolatus of A. Fränkel and Weichselbaum. The organism is known also as the diplococcus pneumoniae lanceolatus, and by the trivial names of pneumococcus and capsulacoccus. The agent is not met with outside the organism, but is often found in the saliva of healthy persons. The diplococcus may be counted as one of the most *pervasive, virulent* and *unmanageable* of the microbes. It is found in the greatest variety of inflammations, especially those affecting the mucous and serous membranes, and often is an exciter of purulent exudate. The diplococcus is found not only in lobar pneumonia, but very frequently in lobular or catarrhal pneumonia, in broncho-pneumonia. Then in pleuritis, peri and endocarditis, peritonitis, otitis, meningitis, ulcers serpens corneae. It is met with in nephritis, metritis, pyosalpinx, parotitis, tonsillitis, arthritis, osteomyelitis, periostitis, and abscesses. In many of these conditions other exciters of inflammation become the associates of the diplococcus, notably staphylococci, streptococci, Friedlander's bacillus, etc. The diplococcus may pass into the milk and the urine. The virulency is variable and is rapidly lost in ordinary cultures.

The special type of genuine croupous pneumonia, with the fibrinous alveolar exudate, the lobar distribution, the rust-colored sputa, and, above all, the sudden abrupt beginning with a chill, the high temperature and critical drop of the fever, is owing to infection with the diplococcus. This is apparent from the following facts: *First*. In the true cases the diplococcus alone is found in the local focus. It can be demonstrated during life by puncture and aspiration of the consolidated area. *Second*. In other localizations of the diplococcus, for instance pneumococcus angina, the same typical clinical picture and course is in evidence. And in third order the blood of a human being that has sustained pneumonia serves to immunize animals to the pneumococcus.

By this fact, too, is made clear that a convalescent from croupous pneumonia is immune to the diplococcus, and the establishing and perfected acquirement of this immunity explains the crisis in the fever,

though the local exudate remains in full development. It follows that a toxic product of the pneumococci is responsible for the systemic affection; and the crisis signifies that the toxemia is overcome, is conquered. This immunity, however, is a short, transient, fleeting one. We know that pneumonia easily relapses, and that a sustained pneumonia predisposes to recurrent attacks. In an ordinary culture the diplococci perish in from four to nine days. This rapid dying-off does not occur in the invaded patient; long after the crisis living and active micro-organisms can be shown in the sputa and the consolidated portions of the lung. So we must conclude that the cocci are not affected by the crisis; the human organism, however, has undergone a change to a condition of antitoxic protection, hence the crisis. This protective antitoxin is evidently quickly eliminated, and, therefore, renewed intoxication is possible when active cocci still persist. We are struck by the close analogy of these phenomena with those of diphtheria infection.

Our examination into the bacteriology of broncho-pneumonia shows that the diplococcus is the prime exciter in a large per cent. of the cases. Lealee states that fully one-half of the cases are started by the pneumococcus. Holt says that in the primary cases the pneumococcus is nearly always present, and in a large proportion of these cases it occurs alone. The anatomical peculiarities of the young and the old, therefore, appear determining in the quality of the local changes, and probably determining, too, in the readiness of accession of confederate micro-organisms. These may then, as often is the case in diphtheria, take possession of the ground. The secondary cases are usually due to mixed infection. In cases complicating measles, diphtheria, scarlet fever and whooping-cough the pneumococcus, too, is found and may be the prime exciter, but the streptococci play the more important role. Staphylococci, Friedlander's bacillus, the tubercle bacillus, the typhoid bacillus, the influenza bacillus, all may be present.

The next feature in the pathology of pneumonia that I desire to touch upon is the blood condition. Croupous pneumonia is characterized by a pronounced state of leucocytosis; that is to say, according to Cabot, "the presence in the blood of an increased number of white cells of the same varieties morphologically as those in normal blood, a plurality, and generally a large one, being polynuclear." In pneumonia the large increase in the leucocytes seems to follow closely the course of the pathological process, and Rotch shows that the "blood crisis" may be found to anticipate the temperature crisis by some hours. We may say that high temperature in a vigorous subject should carry with it a large number of leucocytes. And from a prognostic point of view this is of great importance. According to Smith, "whether we consider the leucocytes as scavengers and assume that they destroy the cocci, or whether we assign to the white cells a share in the production of the antitoxin, certain it is that severe cases in which there is marked leucocytosis do better than similar cases with but slight increase in white cells." We certainly must conclude that when the leucocytosis is inconsiderable the system is not reacting energetically and the prognosis is unfavorable. In a case that has come to a crisis there should be a falling off of the leucocytes. Laehr teaches us that if such a fall does not occur the process is not yet at a



standstill. Or, and that is valuable to be known, a complication such as pleuritis or pericarditis is coming on. And a further practical pathological point is that a very high leucocytosis with low temperature suggests a suppurative complication.

The foregoing findings should be a strong plea for the treatment of pneumonia by the application of cold. As long ago as 1893 Winternitz published observations showing that leucocytosis is promoted by cold. Aside, then, from the favorable influence of cold water upon innervation, circulation, vascular and tissue tonus, metabolism, secretions and excretions, we get by the promotion of leucocytosis a counter influence to toxins and pathogenic micro-organisms. Winternitz and Jaksch, therefore, urged cold as a therapeutic measure in pneumonia. Folsom for this reason also favors a greater trust to hydrotherapeutics than to drugs.

Finally, gentlemen, a chemical note on the pathology: The diminution of the chlorides in the urine in cases of pneumonia has been known since 1850. The diagnostic value has of late been lost sight of. I find a note in the *Lancet* of February 18, 1899, on this subject, referring to results by Dr. Robert Hutchinson. A true retention of the chlorides takes place, but varies considerably. This diminution of chlorides is not pathognomonic of pneumonia, but may occur in other acute fevers, notably typhus and acute rheumatism, but is more constant in croupous pneumonia than in any other febrile disease. Examination of the urine, Dr. Hutchinson points out, is thus of negative rather than of positive value in the diagnosis of pneumonia from other cases of acute pyrexia, the presence of abundant chlorides being opposed to the diagnosis of pneumonia, though their diminution or even absence does not necessarily imply that the case is an example of the disease. As croupous pneumonia is the only pulmonary disease in which diminution of chlorides occurs to any appreciable extent, an examination of the urine may prove of great value in the diagnosis of pneumonia from other causes of consolidation of the lung, and from empyema or pleurisy with effusion.

In conclusion a word as to the antitoxin treatment of pneumonia. Andrew H. Smith, in the *Trans. Am. Physic.*, May, 1898, page 99, says:

"We cannot avoid the conclusion, from a *resume* of the achievements of serotherapy in its application to pneumonia, that up to the present time they can scarcely be said to amount to more than an encouragement to further effort." No really decisive results have been obtained. The first difficulty is found in the short life of the pneumococcus, and its feeble power of resistance. Cocci that are virulent at the beginning of an investigation cease to be so as the investigation progresses. On the other hand, toxins that are expected to produce only a moderate reaction, when injected sometimes display an unlooked for virulence. Animals apparently progressing normally toward immunity, most unexpectedly succumb to septicemia from a dose of toxin supposed to be entirely within the limits of safety. Again, animals that are readily immunized at first, lose their immunity in spite of renewed inoculations, and the serum obtained ceases to be reliable. This variation in the conditions under which experimentation is conducted is liable to vitiate the most carefully drawn conclusions. If this be true under the favorable circumstances of the laboratory, what must it be in the exigencies of ordinary practice?

FACTS OF INHERITANCE.<sup>1</sup>

BY J ARTHUR THOMPSON, M. D., of London, England.

ONE of the distinctive features of the nineteenth century has been a reduction in the number of supposed separate powers or entities—the use of William of Occam's razor, in fact. "Caloric" was one of the first to be eliminated, yielding to the modern interpretation of "heat as a mode of motion;" "light" had to follow, when the undulatory theory of its nature was accepted; a specific "vital force" is disowned even by the Neo-vitalists; "force" itself has become a mere measure of motion, and so on. In view of this progress towards greater precision of phraseology, it cannot be a matter for surprise that a biologist should affirm that to speak of the "principle of heredity" in organisms is like speaking of the "principle of horology" in clocks. The sooner we get rid of such verbiage the better for clear thinking, since heredity is certainly no power or force, or principle, but a convenient term for the relation of organic or genetic continuity which binds generation to generation. Ancestors, grandparents, parents are real enough; children and children's children are also very real; heredity is a term for the relation of genetic continuity which binds them together. As for such a question as this: "Is my grandfather's environment my heredity?" it is an offense against Queen's English as much as against scientific phraseology; it should probably read: "Have the structural changes induced by external stimulus on my grandfather's body had any effect on my inheritance?"

Another distinctive feature in scientific progress has been the introduction of precise measurement. It is hardly too much to say that in the development of natural knowledge, science begins where measurement begins. And this is the case in regard to inheritance. As long as we are content to say: "This child takes after his grandfather;" "this pigeon shows a throw-back to its rock-dove ancestry," and so on, we may be making interesting remarks, but it is only when we are able to give precise measurements of the amounts of resemblance or difference that we make contributions of real importance to that department of life-lore which deals with inheritance. Or, perhaps, instead of measurement, which may be taken in too narrow a sense, I should say that precision of observation and record which admits of statistical, mathematical, or some other exact formulation. While nothing can take the place of experiment—which is urgently needed for the further development of our knowledge of heredity—much has been gained by the application of statistical and mathematical methods to biological results—new contact between different disciplines—which we may particularly associate with the names of Mr. Francis Galton and Mr. Karl Pearson.

## 1.—THE PHYSICAL BASIS OF INHERITANCE.

What was for so long quite hidden from inquiring minds, or but dimly discerned by a few, is now one of the most marvelous of biological commonplaces—that the individual life of the great majority of plants and animals begins in the union of two minute elements—the sperm-cell and the

<sup>1</sup> An address delivered at the Royal Institution of Great Britain, March 30, 1900.



egg-cell. These microscopic individualities unite to form a new individuality, a potential offspring, which will by and by become like to, and yet different from, its parents. If we mean by inheritance to include all that the living creature is or has to start with in virtue of its genetic relation to its parents and ancestors, then it is plain that the physical basis of inheritance is in the fertilized ovum. As regards property, there is an obvious distinction between the inheritance and the person who inherits, but there is no such distinction in biology. The fertilized egg-cell *is* the inheritance, and is at the same time the potential inheritor. What might be compared to an inheritance of property as apart from the organism itself is the store of food which may be inside the egg, or round about it.

An organic inheritance means so much, even when we use the magic word potentiality, that although we are quite sure that the germ-cells constitute the physical basis of inheritance, we may consider for a moment the difficulty which rises in the minds of many when they remember that the egg-cell is often microscopic, and the sperm-cell often only 1-100000 of the ovum's size. Can there be room, so to speak, in these minute elements for the complexity of organization supposed to be requisite? And the difficulty will be increased if the current opinion be accepted that only the nuclei within the germ-cells are the true bearers of the hereditary qualities. Darwin spoke of the pinhead-like brain of the ant as the most marvelous little piece of matter in the world, but must we not rank as a greater marvel the microscopic germ-cells which contained potentially all the inherited qualities of that ant, or of that man?

Nowhere more than in biology is one made to feel that a little may go a long way. A microbic spore invisible even with a fairly good microscope may kill a man. From one microscopic egg of a sea-urchin cut into three, Delage reared three larvæ. In another case he says that he reared an embryo from a 1-37 fraction of an egg. We know of twin animals developed from one egg, but what shall we say of the quadruplets Wilson obtained by shaking apart the four-cell stage in the development of the lancelet, or of the "legion of embryos," which Marchal describes as developing from a single ovum of a peculiar hymenopterous insect, *Encyrtus*? In development, indeed, a half may be as good as a whole.

In reference to the difficulty raised in some minds by the minuteness of the physical basis, it may be recalled that the students of physics, who make theories regarding the sizes of atoms and molecules, which they have invented, tell us that the image of a "Great Eastern" filled with frame-work as intricate as that of the daintiest watches does not exaggerate the possibilities of molecular complexity in a spermatozoon, whose actual size may be less than the smallest dot on the watch's face. Secondly, as we learn from embryology that one step conditions the next and that one structure grows out of another, we are not forced to stock the microscopic germ-cells with more than initiatives. Thirdly, we must remember that development implies an interaction between the growing organism and a complex environment without which the inheritance would remain unexpressed, and that the full-grown organism includes much that was not inherited at all, but has been acquired as the result of nurture or external influence.

In the preformationist theories, which held sway in the seventeenth

and eighteenth centuries—theories which asserted the pre-existence of the organism and all its parts, in miniature, within the germ—there was a kernel of truth well concealed within a thick husk of error. For we may still say, as the preformationists did, that the whole future organism is implicit in the germ, and that the germ contains not only the rudiment of the adult organism, but the potentiality of successive generations as well. But what baffled the earlier investigators was the question how the germ-cell comes to have this ready-made organization, this marvelous potentiality. Discovering no natural way of accounting for this, the majority fell back upon a hypothesis of hyperphysical agencies; that is to say, they abandoned the scientific method and drew checks upon that bank where credit is unlimited as long as credulity endures.

An attempt to solve the difficulty which confronted the preformationists—the difficulty of accounting for the complex organization presumed to exist in the germ-cell—is expressed in a theory which seems to have recurred at intervals in the long period between Democritus and Darwin, the theory of pangenesis. On this theory, the cells of the body are supposed to give off characteristic and representative gemmules, these are supposed to find their way to the reproductive elements, which thus come to contain, as it were, concentrated samples of the different components of the body, and are therefore able to develop into an offspring like the parent. The theory involves many hypotheses, and is avowedly unverifiable in direct sense-experience, but the same might be said about many other theories. It is perhaps more to the point to notice that there is another theory of heredity which is, on the whole, simpler, which seems, on the whole, to fit the facts better, especially the fact that our experience does not warrant the conclusion that the modifications or acquired characters of the body of the parent affect in any specific and representative way the inheritance of the offspring.

As is well known, the view which many, if not most, biologists now take of the uniqueness of the germ-cells is rather different from that of pangenesis. It is expressed in the phrase "germinal continuity," and has been independently suggested by several thinkers, though Weismann has the credit of working it out into a theory. Let me recall its purport. There is a sense, as Mr. Galton says, in which the child is as old as the parent, for when the parent's body is developing from the fertilized ovum, a residue of unaltered germinal material is kept apart to form the future reproductive cells, one of which may become the starting-point of a child. In many cases, scattered through the animal kingdom, from worms to fishes, the beginning of the lineage of germ-cells is demonstrable in very early stages before the differentiation of the body-cells has more than begun. In the development of the threadworm of the horse, according to Boveri, the very first cleavage divides the fertilized ovum into two cells, one of which is the ancestor of all the body-cells, and the other the ancestor of all the germ-cells. In other cases, particularly among plants, the segregation of germ-cells is not demonstrable until a relatively late stage. Weismann, generalizing from cases where it seems to be visibly demonstrable, maintains that in all cases the germinal material which starts an offspring owes its virtue to being materially continuous with the germinal material from which the parent or parents arose. But it is



not on a continuous lineage of recognizable germ-cells that Weismann insists, for this is often unrecognizable, but on the continuity of the germ-plasm—that is, of a specific nuclear substance of definite chemical and molecular structure which is the bearer of the hereditary qualities. In development, a part of the germ-plasm “contained in the parent egg-cell is not used up in the construction of the body of the offspring, but is reserved unchanged for the formation of the germ-cells of the following generation.” Thus the parent is rather the trustee of the germ-plasm than the producer of the child. In a new sense, the child is a chip of the old block. Early segregation of the germ-cells is in many cases an observable fact—and doubtless the list of such cases will be added to—the conception of a germ-plasm is hypothetical, just as the conception of a specific living stuff or protoplasm is hypothetical. In the complex microcosm of the cell, we cannot point to any one stuff and say “this is protoplasm;” it may well be that vital activity depends upon several complex stuffs which, like the members of a carefully constituted firm, are characteristically powerful only in their interrelations. In the same way, it must be clearly understood that we cannot demonstrate the germ-plasm, even if we may assume that it has its physical basis in the stainable nuclear bodies or chromosomes. The theory has to be judged, like all conceptual formulæ, by its adequacy in fitting facts.

Let us suppose that the fertilized ovum has certain qualities,  $a, b, c, \dots x, y, z$ ; it divides and redivides, and a body is built up; the cells of this body exhibit division of labor and differentiation, losing their likeness to the ovum and to the first results of its cleavage. In some of the body-cells the qualities  $a, b$ , find predominant expression, in others the qualities  $y, z$ , and so on. But if, meanwhile, there be certain germ-cells which do not differentiate, which retain the qualities  $a, b, c, \dots x, y, z$ , unaltered, which keep up, as one may say figuratively, “the protoplasmic tradition,” these will be in a position by and by to develop into an organism like that which bears them. Similar material to start with, similar conditions in which to develop, *therefore*, like tends to beget like.

May we think for a moment of a baker who has a very precious kind of leaven, and some less precious material to work with; he uses much of this in baking a large loaf; but he so arranges matter by a clever contrivance that part of the original leaven is always carried on unaltered, carefully preserved for the next baking. Nature is the baker, the loaf is a body, the leaven is the germ-plasm, and each baking is a generation.

## 2.—DUAL NATURE OF INHERITANCE.

Apart from exceptional cases, the inheritance of a multicellular animal or plant is dual, part of it comes from the mother and part of it from the father; the beginning of the new individuality is a fertilized egg-cell. The exceptions referred to are cases of asexual multiplication by buds or otherwise, as in the freshwater Hydra; cases of parthenogenesis, as in the case of the unfertilized eggs which develop into green fly in the summer; and cases like liver-flukes, where an animal is both mother and father to its offspring. Apart from these exceptions, the inheritance does at the start consist of maternal and paternal contributions in intimate and orderly union.

Professor E. B. Wilson states the general opinion of experts somewhat as follows: As the ovum is much the larger, it is believed to furnish the initial capital—including it may be a legacy of food-yolk—for the early development of the embryo. From both parents alike comes the inherited organization which has its seat (according to many) in the readily stainable (chromatin) rods of the nuclei. From the father comes a little body (the centrosome) which organizes the machinery of division by which the egg splits up, and distributes the dual inheritance equally between the daughter-cells.

Recent discoveries have shown that the paternal and maternal contributions which come together in fertilization, are for several divisions at least exactly divided among the daughter-cells, thus confirming a prophecy which Huxley made in 1878: "It is conceivable, and indeed probable, that every part of the adult contains molecules derived both from the male and from the female parent; and that, regarded as a mass of molecules, the entire organism may be compared to a web of which the warp is derived from the female and the woof from the male." "What has since been gained," Professor Wilson says, "is the knowledge that this web is to be sought in the chromatic substance of the nuclei, and that the centrosome is the weaver at the loom."

In regard to these conclusions, I wish to make three remarks: (*a*) Although inheritance is dual, it is in quite as real a sense multiple, from ancestors through parents, as we shall afterwards see; (*b*) if Loeb is able to induce artificial parthenogenesis in sea-urchins' eggs exposed for a couple of hours to sea-water to which some magnesium chloride has been added; if Delage is able to fertilize and to rear normal larvæ from non-nucleated ovum-fragments of sea-urchin, worm and mollusc, we should be chary in committing ourselves definitely to the conclusion that the nuclei are the exclusive bearers of the hereditary qualities, or that both must be present in all cases. Furthermore, the fact that an ovum without any sperm-nucleus, or an ovum-fragment without any but a sperm-nucleus, can develop into a normal larva, points to the otherwise probable conclusion that each germ-cell, whether ovum or spermatozoon, bears a complete equipment of hereditary qualities; (*c*) it must be carefully observed that our second fact does not imply that the dual nature of inheritance must be patent in the full-grown offspring, for hereditary resemblance is often strangely unilateral, the characters of one parent being "prepotent," as we say, over those of another.

### 3.—DIFFERENT DEGREES OF HEREDITARY RESEMBLANCE.

Before the middle of the century considerable attention was paid to what might be called the demonstration of the general fact of inheritance. In a big treatise like that of Prosper Lucas (1847) many hundreds of pages are devoted to proving what we now take for granted—that the present is the child of the past; that our start in life is no haphazard affair, but is rigorously determined by our parents and ancestors; that various peculiarities, normal and abnormal, physical and mental may reappear generation after generation, and so on. One step of progress during the Darwinian era has been the recognition of inheritance as a fact of life which requires no further proof.



Yet this aspect of the study of heredity is by no means worked out. Thus there are some characters—*e. g.*, tendencies to certain diseased conditions—which are more frequently transmitted than others, and we ought to have, in each case, precise statistics as to the probabilities of transmission.

Again, there are some subtle qualities whose heritability must not be assumed without evidence. Thus it is of very great importance to students of organic evolution that Prof. Karl Pearson has recently supplied, for certain cases, definite proof of the inheritance of fecundity, fertility, and longevity.

The familiar saying, "like begets like," should rather read, "like tends to beget like," since variation is quite as important a fact as complete hereditary resemblance. If it seems to us that in many cases the offspring is practically always a fac-simile reproduction of the parent, this may be due to absence of variation, or, what comes almost to the same thing, to great completeness of inheritance; but it is more likely to be due to our ignorance, to our inability to detect the idiosyncrasies.

But it will be granted by all that the completeness with which the characters of race, genus, species and stock are reproduced generation after generation, is one of the large facts of inheritance. It is obvious, however, that this does not sum up our experience, and we must face the task of considering what may be called the different degrees of hereditary resemblance. For these a confused classification and a troublesome terminology has been suggested, to discuss which would be most unprofitable in the limits of a short lecture.

I therefore propose to restrict attention to three familiar cases, which are called blended, exclusive, and particulate inheritance, and then to say a few words in regard to the phenomena known as regression.

A preliminary consideration must be attended to. It is a matter of observation that there are great differences in the degree in which offspring resemble their parents; but it is surely a matter of conjecture that lack of resemblance is necessarily due to incompleteness in the inheritance. Indeed, the fact that the resemblance so often reappears in the third generation, makes it probable that the incompleteness is not in the inheritance, but simply in its expression. The characters which seem to be absent, to "skip a generation," as we say, are probably part of the inheritance, as usual. But they remain latent, neutralized, silenced (we can only use metaphors) by other characters, or else unexpressed because of the absence of the appropriate stimulus.

We can imagine the son of a lavish millionaire reacting the plain living; we can imagine the superficial supposition that the money had been lost; and we can imagine the complete contradiction of this inference in the third generation.

(a) In *blended* inheritance, the characters of the two parents—*e. g.*, in regard to a particular structure, such as the color of the hair—may be intimately combined in the offspring. This is particularly well seen in some hybrids, where the offspring seems like the mean of the two parents; it is probably the most frequent mode of inheritance.

(b) In *exclusive* inheritance, the expression of maternal or of paternal characters in relation to a given structure, such as eye-color, is suppressed.

Sometimes the unilateral resemblance is very pronounced, and we say that the boy is "the very image of his father," or the daughter "her mother over again;" though even more frequently the resemblance seems "crossed," the son taking after the mother, and the daughter after the father. Our emphasis on the distinction between inheritance and the expression of inheritance is surely warranted by cases on record where the young boy resembled the mother and the girl the father; but when they came of age the likeness was reversed—*i. e.*, formerly obscure resemblances became dominant.

(c) It seems convenient to have a third category for cases where there is neither blending nor exclusiveness, but where in the expression of a given character, part is wholly paternal and part wholly maternal. This is called *particulate* inheritance. Thus, an English sheep-dog may have a paternal eye on one side and a maternal eye on the other. Suppose the parents of a foal to be markedly light and dark in color; if the foal is light-brown the inheritance in that respect is blended, if light or dark it is exclusive, if piebald it is particulate. In the last case there is in the same character an exclusive inheritance from both parents.

The numerous experiments on hybridization made by botanists, zoologists, and more practical people, have led us to expect one of three results when a crossing has a successful issue: (1) The hybrid may be intermediate between its parents, sometimes so exactly that we may liken the blending, not merely to warp and woof, but to a mingling of two colors; (2) the hybrid may show an exaggeration of the characters of one parent, often with little apparent realization of the peculiarities of the other. These correspond to blended and exclusive inheritance in ordinary cases of mating within the same breed. But (3) the hybrid may also be very different from either parent, showing features which appear to be quite novel, or which on close investigation are seen to be interpretable as the reassertion of the characters of a remoter ancestor. In short, it may show either a new variation or a reversion. The extraordinary fact is that at least two of these different results may be illustrated in one brood or litter of hybrids.

The facts above referred to may be considered in another aspect, in terms of what is called the quality of prepotency, with which breeders have been for a long time familiar. The term refers to the fact that in the development of a character the paternal or the maternal qualities may predominate, as in unequal blending where there is relative prepotency, or in exclusive inheritance where the prepotency in respect to a given character is absolute. It seems doubtful whether we gain much by using the word, since all these general terms are apt to form the dust particles of intellectual fog, but what we have to do with is the fact that in respect to certain characters the paternal inheritance seems more potent than the maternal, or *vice versa*. Thus in man the father is usually prepotent in the matter of stature, and breeders give many instances where certain, even trivial, characters of sire or dam reappear persistently in the offspring irrespective of the nature of the other parent.

It seems that one of the ways in which the quality of prepotency may be developed is by inbreeding, as Professor Ewart and others have maintained. "Some breeders say that they can produce a horse so prepotent,



so fixed by interbreeding (inbreeding) that it will produce its like however mated;" and there is much evidence to show that, of two parents, the more inbred—up to a certain limit of stability—is likely to have the greater influence on the offspring.

As inbreeding may be frequent in nature, especially among gregarious and isolated groups, and as it tends to develop prepotency, we are able to understand better how new variations may have been fixed in the course of evolution. And we can better understand the position maintained by Reibmayr, that the evolution of a human race implies alternating periods of dominant inbreeding and dominant cross-breeding. The inbreeding gives fixity to character, the cross-breeding averts degeneracy and stimulates new variations which form the raw material of progress. The Jews, especially in isolated colonies, may serve to illustrate persistent inbreeding, which we may contrast with the complex cross-breeding at present conspicuous in America.

Until we have more precise statistical data in regard to blended, exclusive, and particulate inheritance, we cannot hope to simplify the matter with any security. But perhaps a unified view will be found in the theoretical conception of a germinal struggle in the arcana of the fertilized ovum, a struggle in which the maternal and paternal contributions may blend and harmonize, or may neutralize one another, or in which one may conquer the other, or in which both may persist without combining. We have extended the wide conception of the struggle for existence in many directions; it may be between organisms akin or not akin, between plants and animals, between organisms and their inanimate environment, between the sexes, between the different parts of the body, between the ova, between the spermatozoa, between the ova and the spermatozoa, and Weismann has suggested that it may also be between the constituents of the germ-plasm.

[TO BE CONCLUDED NEXT MONTH.]

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**Disinfection of Books.**—The books are to be placed on the upper shelves of an incubator which has been heated to about from 30 to 35° Celsius, with their backs upwards and as wide open as possible. On the floor some formalin pastilles or solution of formalin are placed. The time allowed for disinfecting should be from five to six hours, although if continued for a longer period no harm would result. It is well known how dangerous the books from circulating libraries are, inasmuch as they are often given to sick persons to read. It would, therefore, be well if the sanitary authorities would devote attention to this question.—IMMERWAHR, in *Medicinsche Woche*.

## SOME RECENT EYE CASES.

BY JAMES MOORES BALL, M. D., of St. Louis,

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THE following clinical report is submitted in the hope that it may lead to more care in the diagnosis and treatment of eye diseases on the part of some physicians who may be indifferent to this branch of medicine:

CASE 1.—*Glaucoma Mistaken for Neuralgia.* Mrs. M. G., German, aged sixty-three, was admitted to St. Joseph's Ophthalmic and Surgical Sanatorium on April 26, 1900. Patient states that three weeks ago she had violent pain in and around the right eye. She consulted a St. Louis physician, who diagnosed her case as one of "neuralgia," and treated it by internal remedies. The pain was relieved and the vision lost. Examination showed the right eye to be red; there is a well-marked zone of corneo-scleral injection; the pupil is dilated; the lens cataractous; the anterior chamber shallow; the tension increased to plus 3; and vision is absolutely lost. The left eye shows reduced vision; anterior chamber somewhat shallowed; the media are clear; there is no excavation of the head of the optic nerve; the arteries pulsate on slight pressure; the field of vision is narrowed; and the tension is plus 1. There is some pain in and around the eye. The treatment of this case was as follows: the right eye was enucleated; on the left a broad iridectomy was made successfully. If this does not check the glaucomatous process, I shall excise the corresponding superior cervical ganglion of the sympathetic.

I do not hesitate to say that this woman lost her right eye through the ignorance of her physician.

CASE 2.—*Traumatic Cataract with Rapid Swelling of the Lens.* Mr. A. B., aged thirty-five, was struck in the left eye by a piece of wood five days before admission to St. Joseph's Ophthalmic and Surgical Sanatorium. The left eye shows a corneo-scleral zone of redness; the iris is irregularly dilated; the pupil white from swollen lens substance; the cornea shows a recent wound; and the tension of the eye is increased. Vision is reduced to perception of light. A one per cent. solution of atropine was dropped into the eye five times a day for two days. The pupil became larger, but the tension increased to plus 2. One week after the receipt of the injury I opened the anterior chamber by a cataract knife and delivered the swollen lens. A sterile solution of atropine was used twice a day. The tension is now normal, the eye almost free from redness, the pupil is beginning to appear black, and the patient counts fingers at four feet. I do not doubt that he will make a good recovery, and will have useful vision as a result of the operation. If this case had been treated without operation the result would have been disastrous.

In cases of traumatic cataract with rapid swelling of the lens, the swollen lens substance should be evacuated. For this purpose I always use the Graefe knife, and make a large corneal section. I do not believe in the linear extraction with the keratome, as advised by many writers on



ophthalmology. My reasons for this opinion are set forth in a paper published in the *Annals of Ophthalmology*, January, 1895.

CASE 3.—*Asthenopia from Astigmatism*. Dr. ———, of St. Louis, aged thirty-nine, is wearing two pairs of glasses. The glass for constant use is a convex 2. D; the reading glass is a convex 2.75 D. He complains of pain in and around the eyes. This is made worse by reading. Examination shows ability to read 20-20 with each eye without a glass; he sees equally well with a plus 2 D lens in front of each eye. Examination by the astigmometer of Kagenaar shows a corneal astigmatism of .50 axis 90°, in each eye. I ordered these lenses for constant use:

RE= plus 2.00 combined with a plus .50 axis 90°;

LE= plus 2.00 combined with a plus .50 axis 90°.

With these glasses the patient is able to read several hours a day and attends to a large practice with comfort. The glasses formerly used were prescribed by a competent ophthalmologist, who thought it unnecessary to correct the small amount of astigmatism present. In this connection I wish to remark that the astigmometer of Kagenaar, in my judgment, is superior to the Javal-Schiötz instrument, which is in general use. The advantage is that the mires in the Kagenaar astigmometer show on the cornea with greater distinctness, and the examiner is able to read off the amount of the astigmatism with greater accuracy, and to obtain the axis correctly. The absence of the large steel disk with its confusing circles is advantageous.

3509 Franklin avenue.

**Bacillus Coli Communis in Suppurations in the Ear.**—Baup and Stan-culeaunu (*Progres Medicales*) says that the bacillus coli communis has been noted only twice in suppurative processes in the ear, but their communication describes an observation of mastoiditis in which this bacillus was associated with an anaerobic one, the bacillus perfringens, and from the middle ear, infected the mastoid and thence the rest of the organism, producing pronounced stupor, diarrhea and abrupt drop in temperature, death four days after evacuation of mastoiditis. Inoculation of the bacillus coli and of the bacillus perfringens into animals produced slight lesions separately, but combined they produced a fulminating septicemia every time.

**Formaldehyd Fumes in Whooping-Cough.**—Harrington (*Annals of Gynecology and Pediatrics*, No. 10, 1899) states that formaldehyd fumes will completely check the vomiting and control the paroxysms of cough. A sufficient amount of gas for an ordinary room is generated by placing two or three paraform tablets in a half dram of alcohol, and allowing them to evaporate over a gentle heat. If the fumes become irritant they will do more harm than good. In very severe cases he also recommends the administration of bromoform.

## ANALYTIC DIAGNOSIS OF ABDOMINAL TUMORS.

BY BYRON ROBINSON, B. S., M. D., of Chicago.

(CONTINUED FROM APRIL ISSUE.)

**TUMORS OF THE UTERUS.**—The gynecologist begins his analytic diagnosis of abdominal tumors by (*a*) first finding the uterus. This enables the examiner to decide whether the uterus is the seat of the tumor and also the size of the uterus. Locating the uterus is important because the examiner can decide by the palpation whether the para-uterine tumors are ante- or retro-uterine or lactero-uterine. Also whether the tumors be single or double or multiple is of signification in diagnosis. (*b*) Next, the examiner seeks bimanually whether the portio vaginalis expands into the uterus or periphery of the tumor. If the cervix expands uniformly or funnel-shaped in the uterus, it indicates, *first*, pregnancy, and *second*, soft œdematous myoma. If the portio vaginalis expands indirectly, non-uniformly into any point of the tumor, or may be difficult, as in multinodular myoma, to differentiate whether the tumor originates in the uterus itself or is simply lying adjacent, it is a para-uterine tumor. By palpation one decides the size and condition of the connective tissue between the portio vaginalis and the tumor; in other words, what kind of a style or pedicle has the tumor? Almost all para-uterine tumors will present a furrow, a line of demarkation, between the uterus and itself, while in the nodular uterine tumor the palpating finger perceives no break or furrow between the uterus and its nodule. In doubtful cases, and in justifiable cases, the use of the uterine sound differentiates the uterine from para-uterine tumors because uterine tumors almost exclusively eliminate the endometrial cavity. In uterine tumors one can seldom palpate the oviducts or round ligaments. If one cannot discern the continuation of the portio vaginalis into the uterus, as when several tumors, nodular myomata, of similar size lie adjacent, or when oviducal, para-ovarian or ovarian tumors have so grown and clustered about the uterus that one cannot palpate its contour, then one can palpate the consistence of each tumor by little, sudden projection of the index finger and also learn to detect which tumor has direct or distinct connection with the portio vaginalis. Cystic or solid tumors will in this way be gradually differentiated. In uncertain cases of genital tumors the sound may be used where the circumstances do not forbid it, as in suspicion of intra- or extra-uterine pregnancy, oviducal tumors, pelvic exudates or hæmatocele. The sound shows by the direction it assumes the location of the uterus, which may be in the central or lateral position of the tumor. When in doubt do not use the sound. It is a dangerous instrument, and without corresponding rewards for its use. When the decision is made that the tumor belongs to the uterus, a further decision is required, whether the uterus is uniformly enlarged (pregnancy, soft œdematous myoma and some cases of multinodular myoma) or the tumors are connected to the uterus by pedicles or styles. The pedunculated uterine tumors are subserous myomata (or rarely submucous myomata).

A soft uterine tumor indicates pregnancy, abortion, and soft œdematous myoma or puerperal softening. An important symptom of pregnancy is



the change of uterine consistence. Continual muscular rhythm exists in pregnancy, but not in myomata. There is but one sign of pregnancy, and that is the action of the foetal heart. If the uterus can be excluded from the genital tumor, there remains the para-uterine tumors.

*Myoma Diagnosis.*—The diagnosis of a myoma rests on the demonstration of a solid tumor of the uterine wall. This is performed by bimanual palpation of the genitals, the use of the sound, auscultation, percussion, colonic inflammation, and inspection.

The tumor may lie in the uterine wall (interstitial or intra-muscular myoma), it may project into the uterine cavity (submucous or bleeding myoma), or it may project or invaginate into the peritoneal cavity (subserous myoma). A myoma originates from the myometrium or uterine muscularis, and the above names, submucous, intra-mural and subserous, simply indicate the direction which the main (multinodular) growth of the myoma assumes—*i. e.*, the direction of least resistance. A myoma is a new formation of the myometrium. A soft œdematous myoma is universal enlargement of the myometrium. It simulates or initiates pregnancy.

*The differential diagnosis* of myoma must rest on the finding by bimanual palpation of the four so-called varieties: (a) Soft œdematous, (b) subserous, and (c) intra-mural, (d) submucous (b, c and d the multinodular).

(a) *The soft œdematous myoma* must be differentiated from pregnancy, sarcoma of the myometrium, hydro-metra, pyometra, hæmatometra, and hydrated pregnancy. As a rule, the portio vaginalis is not so markedly soft as in pregnancy. The rapidly growing œdematous, soft myoma may even furnish a venous murmur as in pregnancy. An important fact is that it is a tumor of any age (and not of menstrual life). Otherwise repeated examination and time are required to decide.

(b) *The subserous myoma* represents a tumor developing outside or near the myometrium. It must hence be differentiated from tumors of the oviducts, para-ovarian, ligamentum latum, ovarian and retro-uterine hæmatocele. The practical differential diagnosis lies between subserous myoma and ovarian tumors. Frequently a subserous myoma cannot be diagnosed by palpation from the porous uterus. The sound (when not contra-indicated) aids. Or a uterus might be mistaken for a subserous myoma.

Exudates, both peritoneal and subserous as well as hæmatoma and hæmatocele, present broader bases and more irregular contours, besides wider connection with neighboring organs, uniform consistence and sharp contours—both in blood tumors and exudates. A subserous myoma may not be diagnosed from an intraligamentous hæmatoma because the peritoneum is distended, obscuring the uterine connections and characteristics of both. If the subserous myoma or the ligamenta rotunda cannot be palpated, the sound may, with caution, be used. Time may be required to exclude an oviducal gestation or an hæmatocele of the ligamentum latum, *viz.*: does the tumor remain stationary, hypertrophy or atrophy? Parametritic exudates, from their frequency, variety of shape, contour and consistency, play an extensive role in pelvic or genital tumors, and may be mistaken for almost all parametritic tumors, solid or cystic. Rectal examination may secure a distinct contour and uniform consistence of at least a segment of the subserous myoma. Intra-peritoneal and extra-

peritoneal exudates are diffuse in contour—subserous myoma are almost always round in contour.

*Differential diagnosis* of subserous myoma and exudates extra- or intra-peritoneal, resting on symptoms, are worthless, as both, *e. g.*, might be accompanied by pain, hemorrhage and reflexes; exudates possess broad relations to adjacent organs and diffuse contour; subserous myoma possess sharp relation and marked contour. A subserous myoma may present difficult differential diagnosis from a pyosalpinx, and, besides, this obscurity is further enhanced because every gynecologist knows that it is frequently impossible to differentiate a parametritic exudate from a pyosalpinx. In pyosalpinx careful palpation will determine its relation to the uterus by means of the isthmus of the oviduct. A pyosalpinx lies more proximal, while an exudate lies more distal to the uterus; exudates frequently project or invaginate distalward into the lateral or posterior vaginal fornix. The post-mortems of the author have shown seventy-five per cent. of peritoneal exudates adjacent to the rigid psoas muscle (whether the cecum, appendix, or distal end of the ileum lay on the psoas muscle) in males, while perhaps sixty-five per cent. of females showed peritoneal exudates about the right psoas muscle. The autopsies of females, perhaps one hundred and fifty, frequently showed distinct peritonitis extending from the genitals to the region of the right iliac fossa. Physicians unfamiliar with post-mortem work think that about the longest range of action of the right psoas muscle (iliac fossa region) indicates an appendicitis. The probability is that such is not the fact, the peritonitis started in the right iliac fossa is due to trauma of the psoas muscle or some bowel segment (cecum, ilium, or appendix) lying within the longest range of action of the psoas muscle. The chief diagnosis connects in the fact that peritoneal exudates lie in the right iliac fossa, while parametritic exudates lie in the lateral pelvic region.

(c) *Intra-mural (interstitial) myoma* require to be differentiated from conditions which lead to uniform enlargements of the uterus, as pregnancy and fluid distensions of the uterus. The practical diagnosis lies between an intra-mural myoma and pregnancy. The myometrium is always harder with myoma than it is in pregnancy. The venous murmur may occur in both. Softening of the myometrium is an absolute essential symptom or condition of pregnancy (carcinomatous infiltration may obscure it).

Rhythmical muscular contraction does not occur in myoma. Rhythmical muscular contraction always occurs in pregnancy.

The longer the intra-mural myoma the easier to differentiate it from pregnancy, because softening in late stages of pregnancy is absolutely palpable. Amenorrhœa cannot be relied on to establish the diagnosis of pregnancy, nor can menorrhagia or metrorrhagia. Intra-mural myoma, walnut or egg-sized, are so difficult to diagnose from chronic myometritis that, with the extirpated uterus in my hands, I have been unable to decide without incision. Clinically, time is required to diagnose the difference. Chronic hypertrophic metritis shows a uniform enlargement and induration, while the rule with intra-mural myoma is that the uterus shows irregular enlargement and slightly more induration than the normal. Chronic myometritis shows rigid angulation with the uterus and first induration. Intra-mural myoma shows a soft angulation or connection between corpus



and cervix. The sound in chronic metritis passes straight in the cavity. In intra-mural myoma the sound is liable to deviate laterally or antero-posteriorly while passing to the fundus.

(d) *The submucous myoma* exists in two conditions, viz.: with closed cervix and patent cervix. The differential diagnosis of submucous myoma lies in the direction of chronic myometritis, pregnancy, and abortion. The characteristic of submucous myoma is hemorrhage. The aborting foetal ball may simulate a submucous myoma almost exactly, especially if it be located in the distal uterine segment. If the canal is patent dilated, the introduction of the finger to palpate, or the inspection of the eye, decides the diagnosis of the tumor. Remnants of pregnancy would appear black in the cervix from infiltrated blood, and palpate with crumbly consistence. A submucous myoma, non-gangrenous, would show in the cervix a normal reddish appearance of the endometrium, and smooth palpation. In pregnancy the cervix always presents softening. In submucous myoma the cervix is normally hard, not softened. The most difficult differential diagnosis lies between the old retained dead remnants of gestation and submucous myoma. In dead retained remnants of gestation the fragmentation, the friability, and the facility of separation of the parts from the uterine wall indicates pregnancy. Hemorrhage may occur in pathologic gestation as well as in submucous myoma.

*The mucous or endometrium polypus* is long, oval, often lobed or divided, possesses an irregular surface, on which may be noted unruptured follicles from which mucus is flowing. This mucous polypus is highly congested, darkly red, and bleeds easily on trauma. The style is small; the mucous polypus is soft in consistency.

The fibrous polypus, the submucous myoma, is indurated in consistence, round in contour, smooth surface. However, both the mucous polypus and the fibrous polypus (submucous myoma) may simulate or mimic each other that all points of differential diagnosis disappear. The submucous myoma may be mistaken for the inverted uterus. The differentiation lies in the relation of the tumor to the cervix and corpus. Bimanual examination detects a depression in the fundus in inversion of the uterus, while in submucous myoma the fundus remains as usual. If one can see the two oviducal apertures, the diagnosis of inversion of the uterus is made certain.

Large tumors of the vaginal wall and portio vaginalis of round shape and smooth surface are differentiated by their relation to the cervical canal, such as sarcoma and carcinoma.

The diagnosis of myosarcoma depends upon the presence of a myoma; however, it is only possible by a microscopic examination of a test-section from the myometrium. The diagnosis of sarcoma of the cervix is made through its grape-like appearance and its œdematous consistence. Sarcoma of the corpus uteri originates in the endometrium and from the degeneration of a myoma. Myosarcoma originates from the degeneration of an intra-mural or submucous myoma. A myoma acquires gradually the symptoms of malignancy, viz.: rapid growth, metastasis in adjacent structures, and recurrence after removal. Sarcoma of the uterus is the most violently and rapidly fatal of the malignant tumors. It is rapidly infiltrated and enlarges the myometrium, and quickly perforates the peritoneal

cavity, followed by numerous metastatic distribution. In many of the cases of uterine sarcoma, operated on by Lucy Waite and myself, at the Mary Thompson Hospital, several long and continued hemorrhages are observed from the endometrium.

*The Differential Diagnosis of Carcinoma of the Uterus.*—Carcinoma of the uterus arises from the flat and cylindrical epithelia, *i. e.*, the mucosæ which cover its myometrium, viz.: (a) Carcinoma of the portio vaginalis which arises from the flat epithelia which extend from the os externum to the insertion of the vaginal fornix. (b) Carcinoma of the cervix which arises from the cylindrical epithelia lining the cervical canal from os externum to os internum. (c) Carcinoma of the corpus which arises from the cylindrical epithelia of the corporeal endometrium extending from os internum to the fundus and oviducal apertures. The above divisions of carcinomatous sites in the uterus, from the suggestions of Veit and Ruge, not only has reference to the different structures of the various segments of the mucosæ, but also to the characteristic method of progressive distribution of the three forms.

Carcinoma consists of cells or stroma. The progress of the tumor depends on whether the cells or stroma preponderate. If the cells and stroma are the chief elements, the carcinoma will grow rapid and be quickly fatal, and *vice versa*.

(a) *The carcinoma of the portio vaginalis* is the most numerous representative of this destructive neoplasm. The recognized forms of cervical carcinoma are: 1. The polypoid carcinoma or cauliflower excrescence of the cervix. It arises from the flat epithelia of the cervix, grows rapid, to the size of a hazel nut or an orange, is often pedunculated, the surface of the tumor is not smooth but uneven, bleeds easily on trauma and often covered with a dark gangrenous mass.

1. *The infiltrating carcinoma* of the portio vaginalis shows thickening and hardening of the cervix. The infiltration passes to various depths in the cervical tissues, rarely beyond the vaginal fornix, involves one or both lips, and the surface of the tumor shows little or no substance loss and may be smooth.

2. *The carcinomatous cavity* of the portio vaginalis represents a funnel-shaped ulceration generally on one lip. It penetrates the substance of the cervix near the os externum. I have seen death occur in twelve weeks from the beginning of this form of carcinoma, although I removed the uterus six weeks after it began.

3. *The carcinomatous ulcer* of the portio vaginalis represents a flat, broad ulcer on the surface of the cervix with little tendency to grow into the deeper parts (*ulcerus rodens*). It belongs chiefly to one lip.

Carcinoma of the portio vaginalis spreads almost entirely in the vaginal wall—*i. e.*, same kind of flat epithelia in which it began. As Dr. George Winter says in his excellent labors, to which I am many times indebted, the sovereign means of diagnosis of carcinoma is the microscope. The second means is the clinical experience.

(b) *The carcinoma of the cervix* arises from the cylindrical epithelia of the cervical endometrium. Carcinomatous nodes occurring deep in the cervical tissue, Veit believes arises from the endothelia. The forms of cervical carcinoma recognized by methods of growth, destructive ulceration and methods of infiltration are:



1. *The infiltrating carcinoma* of the cervix represents a partial or total thickening of the cervical wall. It arises from nodes in the cervix, ulceration fails at first and it spreads proximally and distally in the cervical canal until the cervical endometrium is so devitalized that it becomes infected and ulcerates.

2. *The carcinomatous cavity* in the cervix arises from local points in the cervical endometrium, rapidly destroys the epithelia and ulcerates, producing the deep, ragged depression too often palpated by the gynecologist. The ulcerated cavities lie in the cervix, rarely in the vaginal wall.

3. *The carcinomatous ulceration* in the cervical canal appears to arise from the entire surface of the cervical endometrium and rapidly produces destructive superficial ulceration, making the cervical canal feel on palpation like a hard cylinder. The cervical canal is often thinned by ulceration from the internal surface. Cervical carcinoma, unlike the carcinoma of the portio vaginalis, spreads almost entirely toward the corporeal endometrium—*i. e.*, it distributes itself in the same kind of epithelia in which it originated.

(c) *Carcinoma corporis* arises from the corporeal endometrium. According to the methods of distribution, three clinical varieties present themselves, viz.:

1. *Diffuse carcinoma* of the corporeal endometrium arises as a simultaneous disease of the entire corporeal endometrium. It forms nodular thickenings of the endometrium and infiltrates the myometrium until so devitalized that infection enters and the uterus represents a solid mass of inflammatory and carcinomatous conglomeration. Destructive ulceration and metritis ends the scene.

2. *Circumscribed carcinoma* of the corporeal endometrium arises as a localized point of the size of a nickel or silver dollar. The remaining corporeal endometrium may be healthy. Infection and destructive ulceration follows with metastasis.

3. *The polypoid carcinoma* of the corporeal endometrium is rarely primary, chiefly secondary, arising as a circumscribed point, may be pedunculated and project from the uterine cavity.

The polypus is soft, friable, and destroyed on the surface. The remaining corporeal endometrium may be healthy. The distribution of carcinoma of the corporeal endometrium is chiefly toward the myometrium and secondarily toward the endometrium. Carcinoma which tend to develop toward the free cavity affect the myometrium less than carcinoma which tend to develop in the myometrium, which affects the endometrium slightly.

Malignancy of the endometrium is characterized by irregularity of growth or destructive growth.

*There is a pre-carcinomatous stage, non-recognizable and non-palpable.* The diagnosis of carcinoma of the uterus is a life-saving process. The failure of an early diagnosis and consequent radical surgical procedure costs a human life. It is a lack of professional skill. To neglect an early diagnosis of carcinoma of the uterus is morally criminal. The first suspicion of uterine carcinoma demands the consultation of an experienced colleague, and the second a test fragment for microscopical examination. Symptoms of carcinoma indicate only probability. They are, however,

sufficient to direct the diagnostician. Some of the important symptoms are: (*a*) hemorrhage, often cohabitation from mechanical insults or the overfilling of the vessels and rupture of the same. (*b*) Post-climactic hemorrhage. (*c*) Sanious secretion with odor, blood and shreds of tissue indicate advance of carcinoma. (*d*) The malignant cachexia or a waxy color (late symptom). Unfortunately in my experience the general practitioner waits for the "fifty years" (change of life) and the deadly cachexia.

Clinically the diagnosis of uterine carcinoma rests on (*a*) inspection of the growth, (*b*) palpation of the tumor, (*c*) destructive (odor) ulceration (odor) of the neoplasm, and (*d*) microscopic examination of a test fragment, (*e*) digital exploration of the endometrium. Every fragment of tissue expelled from the uterus should be considered as suspicious for carcinoma.

The differential diagnosis of carcinoma extends over the uterine polypus and pedunculated myoma. Follicular hypertrophy of the portio vaginalis leads to circumscribed nodules on the cervix, but they possess no ulcerated condition. Circumscribed areas of cylindrical epithelia, displaced from the cervical canal to the surface of the portio vaginalis, mimics carcinoma, condyloma, erosions of the portio vaginalis, decubital ulcer, tuberculosis ulcer, syphilitic ulcer, must all be analyzed to differentiate from carcinoma as well as cervical catarrh of the aged, interstitial myoma. The microscope must speak the last word. A carcinoma distributes itself: (1) locally by pressing toward the vagina, parametrium, bladder, and rectum, continuity of tissue. (2) The distribution to the glands by lymph channels. (3) The distribution to other viscera by blood and lymph channels.

The diagnosis of carcinoma in the parametric viscera and lymph glands offers difficulties, and frequently palpation is not possible until established beyond operability. The distribution to the bladder is diagnosed by the cystoscope, and to the rectum by palpation.

*The Para-uterine Tumors.*—If it fluctuate, it is cystic; the chief form of tumors to differentiate are: (*a*) ovarian, (*b*) para-ovarian, (*c*) hydrosalpinx, (*d*) pelvic peritonitic exudate, and (*e*) an hæmatocele in the early stage. These five tumors may assume almost any position adjacent to the uterus, with pedicles, however, the presence of which aid in differential diagnosis. The hæmatocele closes definitely by Douglass' pouch at its seat, and to a great extent exudates locate themselves similarly. Small ovarian and oviducal tumors are apt to remain in the original seat—*i. e.*, lateral to the uterus; however, small oviducal, para-ovarian and ovarian tumors frequently locate themselves in the pouch of Douglass. A retro-uterine exudate in the first stage may be mistaken for a cystic tumor as it fluctuates.

*Solid tumors* of the genitals require considerable attention; for, as Dr. George Winter notes, in his excellent writings, to which I am glad to acknowledge my indebtedness, small ovarian tumors with thick walls and dermoids are often held as solid tumors. Palpation demonstrates the solid consistence of the tumor. Hæmatocele and exudate are excluded; later they become solid, however, with no definite contour. After the recognition of the solid consistence of the tumor the shape should be determined, which would suggest the organ from which it sprung. Is the tumor round,



irregular or flatly diffuse? An essentially round contour indicates a tumor of ovarian origin, and frequently an oviducal tumor. A flat diffuse tumor indicates a tumor of the connective tissue with frequent exceptions. Oviducal tumors, especially pyosalpinx, connect themselves with parametritic exudates and thus acquire peculiar features of both malignant and oviducal tumors and create by pelvic infection flat, diffuse, hard tumors. Parametritic exudates may present a round contour, but by palpating every accessible part the nature of the tumor may be revealed. Solid oviducal tumors may be fibroma, fibro-sarcoma, sarcoma or carcinoma. Thick-walled pyosalpinx and the residue of old oviducal pregnancy may be considered solid tumors.

*Intraligamentous tumors* acquire a special feature because of the surrounding envelope of connective tissue and covering of the peritoneum. The connection with the pelvis, on account of the two features, is obscure, and the capsule of connective tissue in an infiltrated state makes the tumors difficult to recognize in contour, consistence and relations. The simulation of the development of oviducal tumors also adds difficulty in the diagnosis of intraligamentous tumors. After the seat of intraligamentous tumor is established and the origin from the uterus is excluded, the decision whether solid or cystic should be determined. Repeated examinations and palpations of every minute point of the territory will be required to determine the location, nature, relations and the diffuseness of consistence between thick-walled cysts (dermoids) and solid tumors. If palpation fails per vaginum, success may be secured by examinations per rectum, on which the tumor frequently lies, free from the chief portion of the ligamentum latum. A recognized intraligamentous tumor of cystic consistence indicates a para-ovarian, an oviducal (especially hydrosalpinx), an ovarian or hæmatoma in the early stage.

If the intraligamentous tumor presents practically no fluctuations and hence is solid, the differential diagnosis is more and more obscured—*e. g.*, if it be an ovarian tumor in the ligamentum latum it will be of solid papillary growth, and if of a malignant nature it will infect adjacent regions, producing a diffuse, irregular contoured mass.

In like manner the oviducal tumors, especially of a suppurative type, are surrounded with a thickened, infiltrated capsular wall of the ligamentum latum, which is still more thickened by peritoneal exudates presenting almost no fluctuation on palpation. And how often in operating do we find enclosed in an oviducal tumor a solid ovarian tumor—unsuspected.

The shape of the tumor is obscured, the oviducal spiral form is not recognized, as the furrows are filled with exudate, or there remains only the hard oviducal isthmus to establish the connection with the uterus and hence oviducal region. Intraligamentous exudates and pelvic cellulitis can simulate myoma, as the exudate may be smooth and present broad connection with the uterus. Hæmatoma of the ligamentum latum, arising frequently from rupture of oviducal pregnancy, may shrink and harden and closely simulate a solid intraligamentous tumor—a palpation widely differing from the general view of a hæmatoma in the fresh state. The difficulty in establishing a differential diagnosis between a hæmatoma and a hæmatocele in the various stages is difficult, often impossible, and of the

genital tumors they perhaps require the most historical subjective data to aid the gynecologist.

To distinguish genital tumors located in the lesser pelvis from other abdominal tumors is generally easy. However, when a genital tumor becomes large enough to project proximally to the ileopectineal line it will require the best hands and the finest skill to differentiate these large genital tumors from other abdominal tumors—*i. e.*, of the tractus urinacus, the tractus intestinalis and its appendages. When a tumor is in the small pelvis it is so accessible to perfect bimanual palpation that its size, shape, mobility, position, contour, location, consistence, relation and connection with the genitals may be determined and differentiated from other abdominal tumors. Also by the most perfect bimanual palpation one can differentiate the genital tumors from those of the pelvic peritoneum, pelvic and pelvic glands, bladder, rectum and pericæcal exudates. Again, should the pelvic subserosium be classed with the genitals on account of its intimate anatomic and pathologic relations, difficult differential diagnosis will arise because of the various forms of perimetritic, parametritic, and post-metritic exudates, and besides these exudates assume various stages of consistence, size, and contour, according to age of disease. If carcinoma arise in the lesser pelvis, accompanied with its usual infectious processes, swellings of various size and consistency spring up with sharp or diffuse contour to obscure the diagnosis. In such cases it is not always possible to decide whether the carcinoma originated from the bladder, rectum, vagina, or other portions of the genitals.

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**The Uses of Suprarenal Gland Extract.**—The uses of the suprarenal extract are, of course, based upon its physiological effects. In spite of the almost infinitesimal dose needed to produce a recognized effect, the extract is not poisonous. Its action is not cumulative, and it has no direct effect on the nervous system. Nearly all inflamed tissues are said to be benefited by the application of this extract. It has been employed in the ear, throat, larynx, eye, urethra, and in fact upon every mucous membrane. It is not an objectionable hemostatic, like iron. Secondary hemorrhage follows it but rarely, and though its effects are somewhat transitory, they have the benefit of being exceedingly certain.

A recent writer upon the subject of suprarenal gland gives his conclusions as follows: That the aqueous extract of suprarenal gland, when used locally, is the most powerful astringent and hemostatic known; that congestion of every organ to which it can be applied is relieved by the external use of the extract; that it benefits all forms of inflammation in all parts of the body; and that it is the strongest known stimulant of the heart.

A great deal of interest attaches to the wide uses of this remedy. Its success in the treatment of asthma has recently been much exploited. In the treatment of hay-fever it has been, and doubtless will be, regarded as a promising remedy. In the treatment of diseases of the urethra a wide field is offered for its use. The blanching of the tissues which follows its application will aid in the dilatation of strictures. In fact, in any case in which local hyperemia is a prominent symptom, the gland extract can find a place.

The limits of its usefulness in internal medicine have not as yet been defined, but that it is likely to find a permanent place in our materia medica seems an inevitable outcome of its proved value.—*Medical Age*.



## SURGICAL TREATMENT OF INGUINAL HERNIA AND VARICOCELE ON THE SAME SIDE.

BY ROBERT EDWARD WILSON, M. D., of St. Louis, Missouri.

THE operation which I am about to describe has no doubt been done by other surgeons, but as I have been unable to find any mention made of it in the standard works on surgery, I shall report it as original and describe two clinical cases operated upon by me after this method.

In April, 1899, G. E., German, aged nineteen, clerk, consulted me for rupture. He gave the following history: Father and mother living, both in good health; one brother and two sisters, all living and enjoying good health. Patient's general health has always been very good. About three years ago he noticed a swelling in the left side of the scrotum, which gradually increased in size. About one year after noticing this swelling he consulted his family physician, who informed him that he had a varicocele on the left side and advised him to wear a suspensory bandage, which he did. He states the swelling remained about the same, when on his feet, but almost disappeared when in a recumbent position but there were times when it remained large after reclining for some time.

For the present condition for which he consulted me he gave the following history: In a street fight he felt a sudden pain in the scrotum and inguinal region. This occurred about twelve o'clock at night, and I saw the patient in my office the following morning about eight o'clock. He said that he had slept very little during the preceding night, owing to a severe pain in the scrotum. On examination I found a tumor in the scrotum on the left side about the size of an orange, doughy in consistency and painful on pressure. Thinking that I had an inguinal hernia to deal with I placed the patient on the operating table in a recumbent position and by very little manipulation was able to reduce the hernia, pushing the contents of the sac back into the abdomen. I now advised the patient to go to the hospital and have the operation for radical cure of hernia done. While I was talking to him he again called my attention to the appearance of the rupture, as he called it. On examination I found a large varicocele on the same side, but no reappearance of the hernia. He consented to an operation, and was given a card to the hospital; and the following morning, after careful preparation of the parts in the region of the field of operation and toilet of the colon, I did the operation which I shall describe.

The operation I did was after Bassini's method. An incision about four and one-half inches in length was made, beginning on a level with the anterior superior spine obliquely downward parallel to and a little above Poupart's ligament and extending to a little below the external abdominal ring onto the scrotum. The incision was now made deeper, and the aponeurosis of the external oblique was exposed and severed from the external ring to a few lines above the internal ring. The sac and cord were now exposed and isolated (*en masse*). The cord and its vessels were now separated from the sac, the former being held out of the way with a blunt

retractor. The sac, which extended well into the scrotum, was separated from adjacent structures, opened, and as it was found empty, ligated with silk up near the internal ring. The part of the sac below the ligature was now cut off and the stump returned to the abdominal cavity; a new canal was now made for the cord, after "Bassini." The next step in the operation was the removal of the section of the pampiniform plexus for the relief of the varicocele. The skin wound having been extended well onto the scrotum in the beginning of the operation, and the cord isolated, I was enabled by gentle traction upon the cord to lift the testicle and varicocele—*en masse*—from the scrotum. The cord and three or four veins were now separated from the mass, and two ligatures were passed around the dilated mass of veins about one and one-fourth inches apart and ligated. The mass of veins in between the ligatures was now cut out and the stumps drawn together by means of the ligatures that were used in the tying of the veins.

The testicle was now allowed to drop back into the scrotum and the wound in the skin closed up by means of interrupted silk sutures.

The whole operation, or the two combined, did not take more than twenty-five minutes. The patient was kept in bed for ten days, and on the twelfth day left the hospital. His temperature and pulse were normal throughout. He made a perfect recovery, and he has been working at his desk every day since he left the hospital.

The other case which I shall mention in no way differs from the one reported, either in operation or result.

G. D., Irish, consulted me December, 1899; laborer, age twenty-nine. Father and mother living, in good health; no brothers; one sister died from diphtheria. Patient states he has always enjoyed good health, but has always been worried about a swelling in the left side of the scrotum. He says that when he does not wear a truss, the swelling becomes much larger. He does not know when this trouble began, but says he thinks it was always there. On examination I found indirect inguinal hernia on left side and a well mapped varicocele. I sent the patient home and operated upon him the following day, with the same result as the case reported above.

In conclusion, allow me to say I found the operation very easily done and my results obtained were all that could be expected, and I shall continue to do the operation in future and recommend it to my surgical friends.

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**The Tuberculides.**—Leredde (*Sem. Med.*) thinks that the domain of tuberculous skin lesions should be enlarged so as to include, besides tuberculous lupus in its different forms, lupus erythematosus and the intermediate lesions. He thinks that many lesions affecting the vessels of the skin are examples of toxi-tuberculous angiodermatitis. He believes that the so-called scrofulides are manifestations of either tuberculosis or syphilis, and he thinks that the term scrofulide should no longer be used.



## LONDON CORRESPONDENCE.

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**The Plague at Sydney, Australia.**—On April 9th, it was reported from Sydney that ninety-three cases of plague and twenty-nine deaths from that disease had occurred there.

A weird chapter in the annals of the human race might be written on the various strange and incredible methods resorted to by insane persons to inflict on themselves forms of mutilation which sometimes terminate in death. Originality even in suicide might have been deemed unattainable in this late age, but the method adopted by an inmate of the Derby Lunatic Asylum may, we think, be reckoned as standing alone. The evidence of the doctors and nurses laid before the coroner and jury was that a female inmate of the above named institution actually committed suicide by tearing out her own tongue in the space of a few minutes. She survived after this unusual form of mutilation, from the Friday afternoon until Saturday morning, ultimately dying from shock and hemorrhage. When one realizes how difficult it is to secure an effectual grip of another person's tongue, for instance, in the suspension of breathing during the administration of an anesthetic, the extraordinary determination of this patient will be realized.

**Hospital Work.**—Enormous pressure is being put just now on the hospital service in connection with the war. From 10,000 to 13,000 sick and wounded will be sent home, in the ordinary course, a number that will make the Army Medical Service quite the most arduous of the whole campaign. For work of this character every possible assistance that civilians can render should be forthcoming freely and generously. The Army Medical Service is understaffed for the work in front of it, and it has not at command the facilities which are a paramount necessity. Not that the War Office is not doing all it can, but there is a limit to what can be done in every twenty-four hours. For this reason civilian assistance is very necessary.

**At the Seventh International Congress Against Alcoholism,** which took place in Paris in 1899, it was decided, on motion of the Austrian delegate, to hold the next meeting in Vienna in 1901. A committee has already been formed for the purpose of arranging the business of the congress. The committee is made up of various medical men, with Prof. Max Grubier as their head. The committee is prepared to enter into communication with specialists abroad in order to make the congress as far-reaching as possible, and requests that those wishing to take part notify the fact to Dr. Daum.

**Sir Walter Foster and Post-Office Report.**—Sir Walter Foster has asked Mr. Hanbury whether his attention has been called to the forty-eighth report of the post-office of the tables referring to deaths from phthisis and

superannuation from phthisis, and whether this will be inserted in the next report. According to the official reply furnished, it appears that the tables were omitted in order to increase the space available for particulars of more general interest, and "because there seemed no special reason for bringing phthisis into special prominence." The number of deaths and superannuations from phthisis as well as from other diseases during the year were given in Appendix F to the report, and the postmaster-general is disposed to think the information there is sufficient.

**The Quarantine Orders for Dogs.**—The stringent rules regarding the quarantine put upon all dogs brought into this country from Ireland, are causing a good deal of feeling to be expressed in the canine and sporting press, many letters from owners and others having appeared who think the rules unnecessarily severe. It is to be hoped, however, that nothing will be left undone to keep England clear of rabies now that the measures taken by Mr. Walter Long and his veterinary advisers on the Board of Agriculture have obtained such great and complete success. Although the muzzling order has been so unpopular and has excited so much opposition from the dog-owning public, there can be no question as to the excellent result which it has brought about. Until its regulations were strictly enforced, rabies existed to an alarming extent, but within three years it has been practically stamped out. The danger to guard against now is its reintroduction.

**Dr. W. S. Church** has been re-elected president of the Royal College of Physicians of London by a practically unanimous vote.

**Distinction to an Aberdeen Lady Medical Student.**—An Aberdeen lady medical student, Miss J. C. Macleod, has just been awarded the Lizars Gold Medal in Anatomy, at Aberdeen University. Miss Macleod has the honor to be the first lady student who has gained this distinction. The medal is awarded annually to the student gaining the highest distinction in practical anatomical work done in the university.

**Tincture of Iodin as an Antiseptic in the Diarrhœa of Children.**—Cattaneo (*Pediatrics*, October, 1899) calls attention to the value of tincture of iodine in the gastro-intestinal infections of infants. This remedy has also been praised by Grosch and Stahan. The following combination is recommended:

℞ Tincture of iodine .....	5 to 15 drops.
Distilled water .....	5 ounces.
Syrup .....	6 drams.

M. Sig.—A teaspoonful every two hours.

It is well to administer a purgative dose of calomel or castor oil before using the iodine. This combination of a purgative with the iodine gives excellent and speedy results.



## NEW YORK LETTER.

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**New York Academy of Medicine—Section on Pediatrics.**—At the last meeting of this section Dr. Freedmann presented a case of cretinism, occurring in a child of fourteen months. He first saw the child on February 10th. The mother stated that the child had a nasal obstruction which had existed for some time, and caused it to breathe through the mouth at nights. The child did not appear to be as bright as her sister, and had not grown or improved mentally during the last six months. She nursed well, but was obstinately constipated. The general appearance of the child was that of a typical cretin; the face was thick and heavy; the hair was thin; the skin was dry and yellowish in color; the expression was dull; the lips were thick; the tongue was swollen and protruded; the nose was occluded with mucus; there were supra-clavicular pads; the abdomen was distended and the umbilicus was prominent. The weight of the child was eleven pounds, twelve ounces. (At birth she weighed eight and one-half pounds, and thirteen pounds when five months old; this shows a loss of four ounces in the last six months.) The length of the child was twenty-three and one-half inches. The temperature was 95° F.

On February 16th treatment was begun with thyroid. On February 20th, there was a loss in weight of one and one-half ounces. On February 24th, after eight days' treatment, the bowels became regular; loss in weight was then four ounces. On March 3d there was a loss of eight and one-half ounces since beginning treatment; the length of the child was twenty-four inches, a gain of one-half inch; the child was brighter and did not protrude its tongue. On March 14th child was very restless; there was a loss in weight since beginning treatment of one pound and one ounce. On March 29 (forty-one days) there was cough and rapid breathing; the thyroid was then stopped until April 3d. The skin then was moist and the tongue does not protrude. No teeth have appeared.

*Summary* of this case shows (1) constipation was cured in eight days; (2) there was improved intelligence in fifteen days; (3) there was an entire change in appearance, evidence of cretinism having disappeared, in forty-seven days.

At the same meeting there was presented a case of hereditary lues with the following history: Belle H., aged nine months, was the youngest of four children, the others being in good health. Family history was good. At birth the mother noticed that the child's abdomen was unusually large. The child has always been subject to attacks of vomiting, while the bowels have always acted normally. When the child was first presented, it was generally emaciated. The abdomen was very large, tympanitic, the outlines of the liver and spleen were visible on inspection. Palpation showed an extremely hard spleen, reaching low down in the iliac region; the liver, likewise, was excessively firm, extending three inches below the border of the ribs, the lobes being clearly distinguishable. Thoracic examination revealed nothing abnormal. The lymph nodes were nearly all moderately enlarged. There were signs of a moderate rachitis. Examination of the blood and urine were negative in results.

The temperature was 100.2°. There was a nystagmus on attempted fixation, probably due to amblyopia.

The diagnosis lay between pseudo-leukæmia splenica, anemia splenica, amyloidosis, and hereditary lues. The condition of the liver argued against the two former, the child's age was against amyloidosis. Therefore, anti-luetic treatment was begun, as should be done in all similar cases, on general principles. There has been great improvement.

**Transactions of the Woman's Hospital Society.**—At the last meeting of this society, Dr. Joseph E. Janvrin, its president, related an instance of a silk ligature passing through the bladder. It never gave rise to any temperature; there was a great deal of pain, however. The ligature finally passed into the bladder and then passed off with the urine. That occurred fifteen years ago. In old times, when assisting his old preceptor, Dr. Peaslee, in performing ovariectomies, it was a common thing to leave the abdominal wound open for drainage, small glass drainage tubes being used for that purpose; this was twenty-five or thirty-five years ago. Silk and nothing else was used at that time. It was a common thing to have, following these operations, inflammation, or peritonitis, etc., and washing out the abdominal cavity was done for weeks and, in some cases, for months afterwards with what was called "artificial serum," which was simply the saline solution of the present day. I have seen in some cases the ligature become detached and washed out; this happened in quite a number of instances. The little sinus would then heal up. I have never seen fatalities follow even at that time that could be absolutely traced to the use of the ligature; but, of course, operations at that time were not done aseptically, and peritonitis often followed.

**Twenty-four years ago** Dr. Peaslee devised a hollow silver tube which had perforations through it; this tube was introduced into the peritoneal cavity at the lower angle of the wound. The pedicle was then brought around that tube, transfixed and tied there through two of the little openings running through the hollow tube. The upper end of the tube had a little flange projecting outside the abdominal wall, and was secured there. The two ends of the ligature were brought outside; the abdominal wound was also secured there. At the end of forty-eight hours a scalpel, which fitted into the tube, was passed down, the loop was severed, and the tube and ligature were withdrawn, leaving the pedicle to take care of itself. The results were always perfect.

**The Practitioners' Society of New York.**—At a recent meeting of this society, Dr. Robert F. Weir presented a case of resection for double ankylosis of the jaw. The lad was fourteen years of age, and had been crippled in various joints during the past six years by rheumatoid arthritis. Among the joints affected were those of the jaw. During the past two years the teeth had to be forced apart several times quite widely, but the retraction had recurred. On June 10th, when he operated, there was complete immobility on both sides. The operation done was that of Humphrey, modified by Kocher. The line of incision was a short, transverse one, along the lower margin of the posterior part of the zygoma, with the



anterior end running a little upwards, but here only through the skin, to give additional operative space. By cutting or tearing through the attachment of the masseter, the head and neck of the bone were quite easily exposed, divided with a chisel, and the fragment with the fibrously ankylosed head wrenched out of place. Temporary plugging checked all bleeding. A small drain was left in the wound, which was otherwise closed with sutures. Prompt union occurred, and early motion was obtained by the use of chewing gum and the frequent insertion of wedge-shaped pieces of soft vulcanized rubber.

At the same meeting, Dr. William B. Coley presented a case of rapidly recurring epithelioma of the mouth and tongue. The patient was forty-seven years old. The disease was first noticed in February, 1899. It began in the floor of the mouth, the tongue being only secondarily and slightly involved. At the first operation, in February, the diseased area of the floor of the mouth was removed, together with a considerable portion of the tongue. The glands in the neck were not enlarged. The disease rapidly recurred, and in April, 1899, a second operation was undertaken, following a preliminary tracheotomy and complete removal of the glands of the neck. This second operation was a very extensive one, involving the removal of the floor of the mouth and the remainder of the tongue.

**Complimentary Dinner to A. Jacobi, M. D.**—It is believed that this will be a fit occasion for a hearty manifestation of the esteem in which Dr. Jacobi is held, and for the recognition of the services he has rendered, in various relations, during the course of his career of almost fifty years as a physician, educator, and civic worker. This subscription dinner will be held at Delmonico's. The testimonial is sure to be a great success. Among those who are on the General Committee, and who are not physicians, are Seth Low, President of Columbia College, ex-Mayor Abram S. Hewitt, William Dean Howells, Felix Adler, Samuel P. Avery, Frank Boas, A. V. Brissén, Charles Collins, Horace E. Deming, Charles S. Fairchild, Henry Holt, Percival Knaught, Jacob Meyer, Oswald Ottendorfer, George Haven Putnum, Carl Schurz, Gustav H. Schwab, Edwin R. A. Seligman, Simon Stern, ex-Mayor William L. Strong, Everett P. Wheeler, Horace White, etc.

**Appointments at Roosevelt Hospital.**—The retirement of Dr. Charles McBurney has made possible the appointments of Dr. Robert F. Weir and Dr. William T. Bull to Roosevelt. Both these gentlemen have resigned from the New York Hospital, where Dr. Weir has served twenty-eight years and where Dr. Bull has served for seventeen years.

**Death of a Young Hospital Intern.**—Dr. Frank D. Kimball, house surgeon of the City Hospital on Blackwell's Island, a young and very popular physician, was subjected to a double mastoid operation which disclosed an extensive suppurative meningitis, which caused his death.

**A Diet of Wood Shavings.**—The Eastern District Hospital in Brooklyn has a somewhat curious case of a boy, aged eleven years, who has been in the habit for several months of eating shavings. An operation was performed, and one and a half pounds of wood pulp was removed from the stomach.

## MEDICAL NOTES.

**The extract of the suprarenal capsule** has been used with success in the treatment of asthma. It acts when given internally in this condition, but the dose must be increased up to the physiologic effect.

**Hyperthermia** in women at the menstrual period is probably due to the irritation of the uterine nervous system.

**Dyspnea** from various diseases, such as phthisis, emphysema, asthma, pericarditis and chronic nephritis, is relieved by oxycamphor.

**Diphtheria antitoxin** may be given in the following dosage: An ordinary mild case, seen on the first day of the disease, would receive a dose of 2,000 units, but when the symptoms have progressed more rapidly it may be given in larger dosage, such as 8,000 to 12,000 units. Give from 2,000 to 8,000 units every eight hours in these cases until amelioration is noted.

**For cancer of the stomach** a tonic which will arouse appetite and promote digestion is a combination of extract of condurango, strychnin sulphate, dilute hydrochloric acid and elixir of gentian.

**Infection** through the tonsil is a frequent mode of infection with acute articular rheumatism.

**A rubeolar scarlatiniform erythema** is sometimes noted in the course of typhoid fever. Remlinger has recently reported fifty-nine cases in which this took place.

**Katzenbach** reports the case of a physician who inoculated himself with malaria during the course of an operation. The case ran a typical malarial course and the plasmodium malariae was demonstrated in his blood. The patient on whom he operated was the subject of malaria, having always lived in a malarious district.

**The colon bacillus** is capable of setting up a form of enteric fever which differs in some respects from typhoid fever.

**Pain** is coming to be recognized as one of the cardinal signs of ectopic pregnancy. The pain is of a sharp colicky character, distinctly localized to one side, attended with faintness, and is usually followed by hours or days of complete remission.

**The Therapeutic Application of Electric Light.**—M. A. Minime (*Gaz. des Hopitaux*, April 12, 1900) has employed this method of treatment in the following affections: rheumatism, scorbutus, leprosy, sciatic and facial neuralgia, hyarthrosis, pulmonary tuberculosis, pleurisy, etc. The most



rapid and most manifest effect of phototherapy is the cessation of pain; tuberculous and pleuritic patients after taking the treatment for a short time are able to breathe easily and without discomfort. Rapid absorption of pleuritic exudates takes place under the influence of this light. Good results were also obtained in two cases of scurvy, and in one of leprosy. Phototherapy also has a good effect on fever, which rapidly subsides under this influence.

**Is Change of Climate a Necessity for the Successful Treatment of Tuberculosis?**—Charles Denison, of Denver, Colorado, endeavors to answer this important question in the *Col. Med. Journal* for April, 1900. He takes the stand that it is a necessity. He summarizes the requisites in the shape of an ideal climate in the following words: 1. Dryness opposed to moisture. 2. Coolness or cold preferable to warmth. 3. Altitude preferable to sea level pressure. 4. Sunshine preferable to cloudiness. 5. Variability preferable to equability. In addition to the decided advantages which accrue from the possession of an ideal climate, much good can be accomplished by these measures: good feeding, special dieting, and attention to the alimentary tract; medical supervision and medical treatment; inhalation, local medication and surgical interference; specific medication, based on antitoxin treatment. The writer thinks there is no single agency equal in lasting effects to a suitably adjusted change of climate.

**The Pulmonary Complications of Typhoid Fever.**—Dr. C. E. Edson (*Col. Med. Jour.*, April, 1900) devotes himself to a consideration of the pulmonary complications of typhoid fever, taking in in his discourse those lesions due to the absorption and effect of the toxins of the bacillus typhosus upon the local pulmonary system, and also those conditions set up by the actual presence of the bacillus typhosus in the lung. He cites a case of broncho-pneumonia of severe type occurring in the course of typhoid fever, and also another case in which bronchitis was the first sign of invasion of the typhoid infection. Pneumonia is the most common pulmonary complication of typhoid fever. Pleurisy, abscess and gangrene, and even infarction, may arise during the course of this disease.

#### For Irritable Bladder.—

R Salol,  
Tinct. hyoscyamus ..... aa ʒ ij  
Infusion of bucha ..... qs. ad ʒ vj  
M. Sig.—Tablespoonful three times a day.

—Fothergill.

**Elixir of Terpin Hydrate for Bronchitis.**—The following formula is recommended by Crinon:

R Terpini hydrat..... gr. lxxx  
Glycerini,  
Spir ..... aa ʒ iiss  
Mellis despumat ..... ʒ ij  
Tinct. vanillæ ..... m lxxv  
M. Sig.—Two to four tablespoonfuls a day.

—Med. News.

## ABSTRACTS.

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**Chronic Suppuration of the Middle Ear.**—Dr. E. B. Gleason, Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia (*Laryngoscope*, March, 1900), states that the fact that certain organic silver salts are astringents to mucous membranes, without being in the least irritating, has led him to expect that they would prove of value in the treatment of prolonged otorrhea, in which the attic and probably the mastoid antrum were involved in the suppurative process. For this purpose he has made use of protargol in cases of prolonged otorrhea, injecting a hypodermic syringeful of a five per cent. solution by means of a Blake's cannula as high up into the attic as possible. The parts were then massaged with Siegle's pneumatic speculum, in order, if possible, to force a portion of the solution into more distant parts than could be reached with the syringe. The ear finally was dried by means of absorbent cotton. Before using the protargol the middle ear had been cleansed with the aid of Blake's cannula and dried in the usual manner. Although the author has been able to make use of the remedy in only four cases, he has submitted this preliminary report because the cures having been so speedy in three of the cases would indicate that we have in protargol an antiseptic and astringent superior to any now in use in the treatment of chronic middle ear suppurations, and much easier of application than any of the powders.

**Vomiting of Pregnancy.**—Evans advances the theory that the vomiting of pregnancy is due to the rhythmic contractions of the uterus which occur during the whole course of pregnancy. He states that any hollow viscus in contracting may set up a reflex nausea and vomiting; the over-distended bladder in its efforts to contract not infrequently sets up a reflex nausea; similarly the stomach sets up the same reflex nausea. In ileus an analogous reflex action occurs. Appendicular colic is frequently attended with nausea and vomiting. In summarizing he says: 1. There exists more or less of a rhythm in the paroxysms of the nausea and vomiting of pregnancy. 2. There must also exist a rhythmical exciting cause for these paroxysms. 3. There is a rhythm in the contractions of the uterus which occur throughout pregnancy. 4. The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiological contraction of the muscular fibers of the uterus.—*Am. Gynec. and Obstet. Jour.*, December.

**Laphron Smith** describes the case of inversion of the uterus occurring in a primipara six days after confinement (*Am. Gynec. and Obstet. Jour.*, January). The uterus was pressed into position, under the influence of an anesthetic, after about fifteen minutes' labor, and the patient's improvement was rapid and continuous.

**Pringle** reports a case of molluscum fibrosum occurring in a woman of twenty-three years; the principal tumor appeared a little after birth, and was situated on the flexor side of the left forearm. It grew rapidly, was



dark and congested in color, movable and not painful. In addition, other tumors were located on the back and extremities which were about the size of peas; there was a large tumor on the dorsum of the foot which was removed, but it returned. On section of one of these tumors which was removed, it was discovered that it was formed of fibrous tissue with connective tissue cells but no glandular elements.—*Edinburgh Med. Jour.*, March, 1900.

**Haddon** agrees with Haig that meat diet is the cause of gout, and he recommends even more strongly than Haig that meat should be cut out of the diet, best altogether for a time.—*Edinburgh Med. Jour.*, March, 1900.

**Auto-intoxication.**—Auto-intoxication is a self-poisoning of the organism, due to digestive or metabolic products, of normal or abnormal formation, which the organism forms in the fulfillment of its own processes. The source of these products may be outside of the cells proper of the organism—*i. e.*, in the intestinal tract, or interstitial, in the tissues themselves. As examples of intestinal auto-intoxication are cited the nervous phenomena which occur in the course of acute or chronic digestive disturbances; likewise, some skin affections—urticaria, pruritus, acne, and purpura; also asthma dyspepticum, periodic vomiting, tetany, cystinuria, some of the anemias, and the toxic phenomena in helminthiasis. Among the interstitial auto-intoxications are usually mentioned uremia, diabetic and carcinomatous coma, Basedow's disease, Addison's disease, pancreatic diabetes, myxedema, cachexia, cretinism, leukemia, etc.

**Diphtheria of the Conjunctiva.**—Sydney Stephenson (*Lancet*, February 17, 1900) believes that ophthalmia associated with Klebs-Loeffler bacillus is far from rare in London. His own experience agrees with that of C. G. Burton (*Lancet*, January 28, 1900), who found that two per cent. of all cases of ophthalmia were due to that organism. This disease may present all grades of intensity, and cannot be recognized in its milder forms without bacteriologic examination. He divides the cases into three groups: (1) Interstitial cases, (2) superficial membranous cases, (3) catarrhal cases. His practice, if diphtheria is suspected, is to inject antitoxin at once, without awaiting the results of the culture. The child is sent home, but if the diphtheria bacillus is found the child is detained in the diphtheria ward until cured. The local treatment consists of a daily application of fifteen per cent. solution of permanganate of potash, and washing the mucous membrane at short intervals with 1 to 5000 corrosive sublimate solution.

We are pleased to note that the *St. Paul Daily News* refuses to accept any advertisements dealing in disgusting details referring to venereal diseases or diseases of the sexual organs. A crusade has also been started against the numerous medical institutes which advertise: "No Cure, No Pay," and which fail to return the money to the uncured. The *Cincinnati Post* has also eliminated all the fake and immoral advertisements of an alleged medical nature. We hope that this is but the beginning of a widespread reform along this line.



**A Text-Book of Embryology for Students of Medicine.** By JOHN CLEMENT HEISLER, M. D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 190 Illustrations, 26 of them in Colors. 1899. Philadelphia: W. B. Saunders, 925 Walnut street. St. Louis: L. S. Matthews & Co., Agents.

The medical man as a rule knows less about the elements of embryology than he does about any of the fundamental branches of his profession. While he can discuss ably and learnedly the problems of physiology, anatomy and pathology, he is at sea when the discussion turns to the subject of embryology. And why this? First, because the subject is slighted in medical schools, and secondly, because most of the works in this line are too voluminous and "unreadable" for the cursory medical reader to digest. Dr. Heisler has recognized this gap in medical education, and has given us a compendious work on embryology, one which contains the subject in the briefest possible manner and yet withal one which contains all that the doctor can be expected to know of this elementary subject. The matter of fertilization receives the proper amount of attention at his hands, as do the subjects of developmental anatomy and visceral embryology. The book is timely, and is sure to come into use as a text-book.

**The International Text-Book of Surgery.** By American and British Authors. Edited by J. COLLINS WARREN, M. D., LL.D., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital; and A. PEARCE GOULD, M. S., F. R. C. S., Surgeon to Middlesex Hospital, etc. Vol. II. Regional Surgery. With 471 Illustrations in the Text, and 8 full-page Plates in Colors. Price, \$5.00 net (cloth); \$6.00 (sheep or half morocco). 1900. Philadelphia: W. B. Saunders, 925 Walnut street. St. Louis: L. S. Matthews & Co., Agents.

The second volume of this excellent treatise on surgery represents surgical talent of America and England of the highest type. Each chapter is written by one specially skilled in the work of that particular chapter. With two such volumes (volumes I. and II.) the student or practitioner can gain almost all that is needed for a knowledge of the right kind of this important part of his medical education. The book is admirably arranged and is well written, and the text contains the essence of all that is worth knowing from a surgical standpoint. Books of this kind show us what is being done at the present day in that most marvelous subject, modern surgery. The technique of operative work is well discussed. To point out any one particular chapter and dilate on its excellence would seem almost like an act of injustice to the other chapters and their authors,



so praiseworthy are the utterances of these masters of their craft. An interesting and valuable portion of the book is the part devoted to military and naval surgery and to tropical surgery, branches not much touched on by most text-books on surgery. The book will ever remain a monument to the skill and expert knowledge of its contributors as well as to the ability of its editors. We cannot close without saying a parting word of commendation upon the plates and engravings interspersed at timely points throughout the text.

**A Text-Book of Diseases of Women.** By CHARLES B. PENROSE, M. D., Ph. D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynceean Hospital, Philadelphia. Illustrated. Third Edition, Revised. 1900. Philadelphia: W. B. Saunders, 925 Walnut street. St. Louis: L. S. Matthews & Co., Agents.

This book is essentially a book for the student, and promises to be extensively used in that class. It takes up in rational order the subject of diseases of women, and gives in brief detail the different procedures recommended for the relief of the different conditions. Simplicity of style and direction is the crowning feature of the work. A commendable point in the book is the last chapter, wherein the author discusses the effect of the removal of the uterine appendages upon women. His words are wise, and are the result of considerable experience along the line of operative gynecology.

**Elements of Clinical Bacteriology.** For Physicians and Students. By DR. ERNST LEVY, Professor in the University of Strasburg, and DR. FELIX KLEMPERER, Private Docent in the University of Strasburg. Second Enlarged and Revised Edition. Authorized Translation by AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc. Price, \$2.50. 1900. Philadelphia: W. B. Saunders, 925 Walnut street. St. Louis: L. S. Matthews & Co., Agents.

After a careful perusal of this work we can say without prejudice that it is the best of its kind that has yet come to hand. It deals with the application of bacteriologic facts in clinical medical propositions, and the very names of its authors would almost stamp it with the impress of its worth, even without the laudation that necessarily comes with a perusal of the book. It is a book that should be in the hands of every physician and medical student. The most admirable feature of the work is its conciseness and yet withal its scholarly discussion of the very latest findings, especially in the domain of serum therapy. We cheerfully recommend this book to medical readers.

**A Manual of the Practice of Medicine, Prepared Especially for Students.** By A. A. Stevens, A. M., M. D., Professor of Pathology in the Women's Medical College of Pennsylvania, etc. Fifth Edition, Revised and Enlarged. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street; St. Louis: L. S. Matthews & Co., Agents.

This fifth edition of Stevens' compendious form of text-book for students of medicine is certainly a clever little work for the medical student to carry around with him and peruse at every opportunity. It is filled from cover to cover with brief outlines of the different diseases, and discusses as much of the substance as space permits. It is a good book for the student.

**Lectures upon the Principles of Surgery, Delivered at the University of Michigan.** By Charles B. Nancrede, A. M., M. D., LL. D., Professor of Surgery and of Clinical Surgery; Emeritus Professor of General and Orthopedic Surgery, Philadelphia Polyclinic, etc. With an Appendix Containing a Résumé of the Principal Views Held Concerning Inflammation. By Wm. A. Spitzley, A. B., M. D., Senior Assistant in Surgery, University of Michigan. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street; St. Louis: L. S. Matthews & Co., Agents. 1899.

This book is devoted to a consideration of the general theories of surgery, such as inflammation, shock, septicemia, etc. It covers the subject completely and well. The book has a place, for these subjects are often lost sight of in the larger text-books on surgery, where most attention is given to operative surgery and very little to these general considerations. It should be widely read.

**An American Text-Book of Surgery, for Practitioners and Students.** Edited by WILLIAM W. KEEN, M. D., LL. D., and J. WILLIAM WHITE, M. D., Ph. D. Third Edition. Thoroughly revised. Philadelphia: W. S. Saunders, 925 Walnut street. 1899.

This excellent book is again before us in its third edition, a silent testimony of the favorable manner in which it has been received by the profession. Its contributors are men at the head of the list of American surgeons. The book, therefore, represents almost the whole subject of surgery as viewed by our leading compatriot masters in that line. It necessarily is extensive for the reason that its scope includes both surgical pathology and operative surgery. The plates are executed in excellent form and elucidate the text thoroughly. The book can be used by both practitioner and student, for the reason that it is both a text-book and a working manual. But few of our medical books possess this difficult combination of good qualities suited to two such classes, but the American Text-Book of Surgery will certainly answer the purposes of both beginners and advanced workers in surgical fields.



## MEDICAL SOCIETIES.

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American Medical Association, Atlantic City, New Jersey, June 5-8.  
Arkansas Medical Society, Jonesboro, May 14-16.

Association of Military Surgeons of the United States, New York City,  
May 31 to June 2.

Iowa State Medical Society, Des Moines, May 16-18.

Indiana State Medical Society, Anderson, May 24-25.

Medical Association of State of Missouri, Mexico, May 15-17.

Medical Association of Montana, Butte, May 16.

North Dakota State Medical Society, Grand Forks, May 23-24.

**International Congress in Paris, 1900.**—July 23-28, International Congress of Medical Ethics.

July 27-29, International Congress of Medical Press.

August 2-9, Thirteenth International Medical Congress.

August 2-9, Fourth International Congress of Dermatology.

August 10-17, Tenth International Congress of Hygiene and Demography.

August 12-15, International Congress of Hypnotism.

**Program of Missouri State Medical Association, Forty-Third Annual Meeting, at Mexico.**—MORNING SESSION, MAY 15TH.—1. Report of Ophthalmology and Otology, J. H. Thompson, Kansas City. 2. Entropion and Its Rational Treatment, J. L. Short, Kansas City. 3. Intra-Ocular Tumors, with Specimens, C. Barck, St. Louis. 4. Clinical Memoranda of Eye Cases, J. Ellis Jennings, St. Louis: (*a*) The Removal of a Bullet, which, Entering in Front of the Ear, Passed Forward and Inward, Cutting the Optic Nerve and Lodging in the Posterior Position of the Orbital Cavity; (*b*) Severe Headache and Other Nervous Symptoms Relieved by Correcting an Error of Refraction; (*c*) Insufficiency of the Internal Recti Muscles, and the Right and Wrong Way of Using Prisms; (*d*) A High Degree of Convergent Squint in a Patient Thirty-eight Years Old, Operation and Result; (*e*) Enucleation of an Eye, with Implantation of a Glass Ball into the Orbital Cavity. 5. Total Ciliectomy, M. F. Weyman, St. Joseph. Discussion on Nos. 1, 2, 3, 4 and 5 opened by B. E. Fryer, Kansas City. 6. Diatheses as a Factor to be Considered in Diseases of the Nose, Throat and Ear, Fayette C. Ewing, St. Louis. 7. Limitations of the Laryngologist in the General Treatment of Nose and Throat Diseases, by H. W. Loeb, St. Louis. 8. What Not to Do in the Treatment of Diseases of the Ear, Nose and Throat, M. A. Goldstein, St. Louis. 9. Cases of Chronic Deafness from Catarrh Relieved by Tympanic Resection, Robert Barclay, St. Louis. Discussion on Nos. 6, 7, 8 and 9 opened by Hal Foster, Kansas City. 10. Report on Bacteriology, J. J. Claussen, Kansas City. 11. Report on the Bacteriology of Scarlet Fever, R. B. H. Gradwohl, St. Louis.

AFTERNOON SESSION, MAY 15TH.—12. Report on the Progress of Medicine, J. D. Brummall, Salisbury. 13. A Case of Idiopathic Acute Yellow Atrophy of the Liver, C. G. Crandall, St. Louis. 14. The use of Normal Salt Solution and Venesection in Croupous Pneumonia, Wm. Porter, St. Louis. 15. Points of Differential Diagnosis Between Inflammatory Rheumatism and Suppurative Osteo-mylitis, Tubercular Osteo-mylitis, Myositis, Posterior Spinal Sclerosis, Neuritis, Neurasthenia, etc., George Halley, Kansas City. Discussion on Nos. 12, 13, 14 and 15 opened by E. W. Shaufler, Kansas City; L. W. Dallas, Hunnewell. 16. Progress of Pediatrics, E. H. Miller, Liberty. 17. Cerebro-Spinal Meningitis, J. T. Marsh, Liberty. 18. Recent Improvements and Discoveries in the Science of Alimentation, O. P. Kernodle, Sedalia. 19. Diphtheria, P. S. Fulkerson, Sedalia. Discussion on Nos. 16, 17, 18 and 19 opened by H. C. Shuttee, West Plains; J. F. Campbell, Callao; L. J. Jones, Linden. 20. Syphilitic Sciatica, J. K. Bauduy, St. Louis. 21. Two Cases of Chancre of the Groin, A. H. Ohmann-Dumesnil, St. Louis. 22. Some Observations of Secondary Syphilis, Wm. Frick, Kansas City. 23. Nature of Some Epidermic Growths and their Treatment with Formalin, M. F. Engman, St. Louis. 24. Presentation of a New Ureter Cystoscope, Bransford Lewis, St. Louis. Discussion on Nos. 20, 21, 22, 23 and 24 opened by Joseph Grindon, St. Louis.

EVENING SESSION, MAY 15TH.—25. Report on State Medicine, E. L. Priest, Nevada. 26. The Status of the Medical Profession, Present and Future, L. Bremer, St. Louis. 27. Small-Pox: Its Prevention and Treatment, R. S. Kelso, Joplin. 28. Report on Medical Education, J. M. Allen, Liberty. 29. Quackery vs. Medical Ethics, C. R. Day, Mayview. Discussion on Nos. 25, 26, 27, 28 and 29 opened by J. M. Allen, Liberty, and W. S. Allee, Olean.

MORNING SESSION, MAY 16TH.—30. Report on the Progress of Surgery, W. A. McCandless, St. Louis. 31. Old Sinuses, H. E. Pearse, Kansas City. 32. What is the Value of Trauma as an Etiologic Factor in Chronic Tubercular Disease, G. R. Highsmith, Carrollton. 33. Carcinoma of the Cecum in a Young Adult, T. C. Witherspoon, St. Louis. Discussion on Nos. 30, 31, 32 and 33 opened by W. P. King, Kansas City. 34. Symposium on Gall Stones—Physiology of the Bile, C. Shattinger, St. Louis; Pathology of the Gall Stones, H. Summa, St. Louis; Etiology and Diagnosis, W. G. Moore, St. Louis; Medical Treatment, C. F. Wainwright, Kansas City; Surgical Treatment, A. V. L. Brokaw, St. Louis. Discussion opened by P. Y. Tupper, St. Louis.

AFTERNOON SESSION, MAY 16TH.—35. Report on Abdominal Surgery, F. J. Lutz, St. Louis. 36. Radical Treatment of Hernia by the Marcy-Bassini Operation, five Cases, C. H. Wallace, St. Joseph. 37. Intra-Mural Fibroid of the Uterus; Removal During the Fifth Month of Gestation; Recovery; A Normal Parturition; Mother and Child Doing Well, E. R. Lewis, Kansas City. Discussion on Nos. 35, 36 and 37 opened by R. M. Funkhouser, St. Louis. 38. Appendicitis: When and How to Operate, A. H. Meisenbach, St. Louis. 39. Opium in Appendicitis, H. A. Geitz, St.



Louis. 40. Modern Pathology and Treatment of Appendicitis, Pinckney French, St. Louis. Discussion on Nos. 38, 39 and 40 opened by J. Y. Brown, St. Louis; A. R. Kieffer, St. Louis.

EVENING SESSION, MAY 16TH.—41. President's Address, W. B. Dorsett, St. Louis. 42. Report on Gynecology, H. C. Crowell, Kansas City. 43. Vesico-Vaginal Fistulæ, T. E. Potter, St. Joseph. 44. Uterine Carcinoma, M. B. Ward, Kansas City. 45. The General Practitioner and the Gynecologist, F. A. Glasgow, St. Louis. Discussion on Nos. 41, 42, 43, 44 and 45 opened by Y. H. Bond, St. Louis; C. Lester Hall, Kansas City. 46. Acute Inversion of the Uterus, J. C. Crist, Lexington. 47. Are Obstetrical Emergencies Fully Anticipated? C. A. Dannaker, Kansas City. Discussion on Nos. 46 and 47 opened by J. H. Van Eman, Kansas City; O. B. Campbell, St. Joseph.

MORNING SESSION, MAY 17TH.—48. Report on Neurology, C. R. Woodson, St. Joseph. 49. The State's Greatest Crime, E. Van Note, Kansas City. 50. Hystero-Epilepsy, E. E. Parrish, Memphis. 51. Hysteria and Its Protean Manifestations, John Punton, Kansas City. 52. Shall the Specialist Pay a Commission to the General Practitioner? Emory Lanphear, St. Louis.

#### Chronic Constipation.—

℞ Strych. sulph.....gr. 1-40  
 Pulv. ipecacuanhæ,  
 Ext. belladonnæ,  
 Ext. colocynthis comp ..... aa gr. 1-4  
 M. ft. pil. No. j. Sig—Four pills daily at first; then three, and afterwards two.  
 —*DeLafield.*

**Urticaria.**—Mr. Skinner, pharmacist to the Great Northern Hospital, recommends the following formula for allaying the itching, burning sensation of urticaria:

℞ Liquoris hamamelidis.....℥ ij  
 Salis maris.....℥ ss  
 Aq. dest.....O j  
 To be applied freely.

He also speaks highly of the following cold cream:

℞ Adipis benzoinat.....℥ iv  
 Cera albæ.....℥ ss  
 Cetacei.....j  
 Boracis.....℥ ss  
 Glycerini.....℥ j  
 Aq. coleniensis.....℥ iiss

—*Therapeutic Gazette.*

## SURGICAL SUGGESTIONS.

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**Fistula of the Pharynx.**—Freudenthal reports a case of fistula of the pharynx connected with disease of the ethmoidal and frontal sinuses, which was completely relieved by attention to these parts. He thinks the infection took place through the pus burrowing down from the ethmoid through the sinus maxillaris, and from there through a fistulous tract to the pharynx.

**Borden** thinks that the success now attained in modern military surgery is due to our methods of antiseptis rather than to the character of the weapons which inflict the wounds.

**A pathognomonic sign** of Colles' fracture of the radius is a faulty position of the styloid processes of the radius and ulna—*i. e.*, the styloid process of the radius is on a level with that of the ulna, instead of being above it.

**A good method** of locating the region of an abdominal tumor is by colonic dilation.

**The use** of local hot baths in the treatment of septic wounds is very beneficial, both in improving the local condition and in mitigating the dangers of general septic poisoning.

**Subconjunctival** injections of corrosive sublimate are recommended in the treatment of corneal ulcers. Sgroso's formula is used: corrosive sublimate, 5 cg., sodium chloride, 10 cg., aquæ dest., 100 gm.—after cocain.

**Mr. Frederick Treves** has been appointed surgeon-extraordinary to the Queen.

**A daily** subcutaneous injection of corrosive sublimate is recommended as a new treatment for tuberculosis of bones. Prolonged gradual compression is a good means of curing the vascular nevi of infants.

**Doerfler** reports several successful cases of suture of arteries. The application of a continuous suture through adventitia and media sufficed in one instance, while fine button sutures were used in the other case.

**Care must** be taken in the diagnosis of appendicitis in association with pregnancy. Appendicitis may sometimes be mistaken for the uterine contractions in pregnancy, and *vice versa*.



## CHICAGO LETTER.

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**Dr. Harold N. Moyer** showed a case of functional tremor of the arm before the Chicago Academy of Medicine. The case was interesting from the standpoint of diagnosis. It was not a case of hysteria, but it was "functional." The patient has tremors of the arm and hand coming on without any apparent cause.

**Chicago's "Christian Scientists"** are objecting to the teaching of physiology in the public schools. They protested to the Chicago Board of Education at its meeting, April 9th, against it, against medical inspection of schools, and against the rules requiring vaccination. The reply of the board was to the effect that the children of "Christian Scientists" would be governed by the same rules as were the children of the plain, common people.

**By the will** of the late Albert G. Cone, the Presbyterian Hospital will receive \$135,000, and the Chicago Home for Incurables \$50,000.

**A concert** for the benefit of the Passavant Memorial Hospital, April 3d, netted the institution \$1,500.

**The donations** for the proposed hospital for consumptives under the auspices of the Sisters of St. Elizabeth's Hospital aggregate \$17,147.

**The finance committee** of the City Council has taken favorable action on the proposed appropriation of \$2,000 for an emergency hospital in the down-town district, as advocated by the Medical Woman's Club.

**The mortality** during the past week was 572, or 98 less than that of the preceding week. The principal causes of death, in the order of greatest reduction, are: pneumonia, consumption, cancer, diphtheria, Bright's disease and bronchitis.

**The committee** recently appointed to assist in the work of raising funds for enlarging and improving the Presbyterian Hospital has issued a circular requesting subscriptions. Following are the objects for which the funds are desired: A new electric light plant, \$6,000; for the ladies' furnishing fund, \$3,000; for sixteen additional beds, \$1,000; for a steam sterilizer, \$1,000; to meet the deficit, \$3,500.

## NEW REMEDIES.

**Hagee's Cordial Cod Liver Oil Compound.**—Reports from prominent physicians who are using it:

"The results of Hagee's Cordial Cod Liver Oil Comp. have exceeded my greatest expectations. It has no equal as a tissue builder and nerve tonic. It is a blessing to prescribe it."—J. H. Groce, M. D., 418 E. Gray St., Louisville, Ky.

"I want to give my testimony with regard to the use of Cordial Cod Liver Oil Comp. (Hagee) on myself. I was confined to the house with a severe attack of influenza and had tried everything I knew of, but nothing seemed to relieve me till one night I tried your cordial. The result from the first dose was such that I retired to my bed and was able to sleep. I continued taking it and am now tolerably well. I have four patients who are taking it regularly now, and with good results."—J. A. Shepstone, M. D., 4846 State St., Chicago, Ill.

"I have been prescribing Hagee's Cordial Cod Liver Oil for years with very satisfactory results in many diseases where reconstructives and nutritives are indicated, as well as incipient phthisis and obscure diseases. On account of its palatability patients will take it in quantities and long enough to secure results."—G. W. Buchanan, M. D., Richmond, Mo.

"I prescribe Hagee's Cordial Cod Liver Oil constantly; in fact, it is the only form in which I prescribe cod liver oil. It is an invaluable preparation and will not disappoint those who use it."—A. M. Collins, A. M., M. D., Shelbyville, Ill.

"I have been prescribing the elegant and efficient Cordial Cod Liver Oil (Hagee) for several years and find it superior to anything of the kind on the market. My patients will have no other."—Virgil McDavitt, M. D., Quincy, Ill.

"I found Cord. Ol. Morrhuae Comp. (Hagee) to be the remedy *par excellence* in a case of cough resulting from whooping-cough. The remedy is so palatable that patients are delighted with it. I will use no other preparation when I can get Hagee's Cordial."—J. H. Ogle, M. D., Oakshade, Ohio.

"Cordial Cod Liver Oil Comp. (Hagee) is not a new remedy to me, as I have been prescribing it for some time. I have found it to be superior to all other remedies in catarrh of the stomach, for which trouble I believe it to be specific."—T. J. Pugh, M. D., Hearne, Texas.

"Since I have been acquainted with Hagee's Cordial Cod Liver Oil, I have prescribed it exclusively whenever I have had occasion to use such a remedy. I consider it the best preparation of cod liver oil on the market."—Paul C. Skiff, M. D., New Haven, Conn.

"I am using the wonderful Cordial Ol. Morrhuae Comp. (Hagee) more and more."—E. R. Axtell, M. D., Denver, Colo.

"Hagee's Cordial Cod Liver Oil Comp. is the best and most palatable Cod Liver Oil preparation I have ever used."—F. Krehbiel, M. D., Delevan, N. Y.

"Hagee's Cordial Ol. Morrhuae Comp. is the best preparation of the



kind on the market. I have used it in phthisis with splendid results."—C. T. J. Giles, M. D., Piedmont, S. C.

"Hagee's Cordial Cod Liver Oil Comp. is the finest preparation of the kind before the profession. I shall continue to prescribe it in all cases of debility, bronchitis, phthisis, etc."—L. I. Bodenheimer, M. D., High Point, N. C.

"I have been using Hagee's Cordial Cod Liver Oil Comp. for the past three years, and the longer I use it the better pleased I am with it."—W. A. Wright, M. D., Readfield, Maine.

"Cordial Ol. Morrhue Comp. (Hagee) is the most palatable cod liver oil preparation on the market. I use it with good results."—H. A. Elliott, M. D., Barnet, Vt.

"I feel no hesitation in placing Hagee's Cordial Ol. Morrhue Comp. at the head of the list of cod liver oil preparations. It is palatable and easily assimilated, and I can conscientiously recommend it in tubercular and neurasthenic conditions."—W. F. Sterman, M. D., Winterset, Iowa.

"My experience with Hagee's Cordial Cod Liver Oil Comp. has convinced me of its value in the after-treatment of influenza and similar conditions."—A. B. Morrill, M. D., Concord, N. H.

"The combination of the agents contained in Hagee's Cordial Cod Liver Oil Comp. is admirable, and I take pleasure in prescribing it when indicated."—S. H. Duley, M. D., Morris, Minn.

"I am so well pleased with Hagee's Cordial of Cod Liver Oil Compound that I now prescribe it altogether."—T. J. Smith, M. D., Bridge-ton, N. J.

"I have never prescribed a medicine that has given such good results in so short a time as Hagee's Cordial Cod Liver Oil Comp. I have come to consider it a cure for consumption, all debilitating diseases and gripe in all its periods. An old lady seventy-four years old, much debilitated and emaciated, was cured of a severe cough by only two ounces of Hagee's Cordial, and wanted to know why I had not given her this syrup before. A girl eighteen years old with inflammation of lungs and given up to die by five different doctors, was relieved by your cordial. Your remedy has done miracles, and many of my patients will take nothing else."—J. B. A. Tanguay, M. D., Providence, R. I.

"I am acquainted with Hagee's Cordial Cod Liver Oil Comp., and regard it very favorably. I shall continue to prescribe it when I find opportunity."—J. B. Brooks, M. D., Hot Springs, Ark.

"I gave Cordial Cod Liver Oil Comp. (Hagee) to my son, who was much run down. He began to improve right away, and after the second bottle he was so much improved that I have heard no further complaint. In several other instances where I have prescribed it I have been well pleased with the results. I shall continue to prescribe it when I have patients requiring such a remedy."—J. S. Knott, M. D., Dallas, Tex.

"I have prescribed over fifty bottles of Hagee's Cord. Ol. Morrhue Comp. in the past year. My patients are invariably able to take it and with most excellent results."—D. B. Coxe, M. D., Riverside, R. I.

"I have used Hagee's Cordial Cod Liver Oil Comp. with most excellent results. It is palatable, easily assimilated, and a fine nutrient."—Wm. J. Packwood, M. D., Buffalo, N. Y.

**Uricedin in the Treatment of Uric Acid Diathesis.**—Uricedin is a remedy which has proved itself quite efficacious in the treatment of the uric acid diathesis. It is a solvent for uric acid and also acts as a good eliminative in such conditions. The history of two cases will give some idea of its utility:

CASE 1.—M. T., age forty years; family history good; no history of gout or rheumatism in family; complained for years of pains in back, poor digestion, frequency of urination, and burning at times on urination: Physical examination showed him to be a man of good physique; heart and lung sounds normal. Urinary analysis showed that he was passing urine of high specific gravity and full of uric acid crystals. He was put on uricedin, fifteen grains, twice daily in hot water. Within a week he began to show signs of improvement; his lassitude disappeared, his urine began to show a small quantity of uric acid, and it was passed with less frequency than before. After two months' treatment, his condition became so much improved that he was allowed to take a more liberal diet, finally being able to eat the red meats with impunity.

CASE 2.—This was a case of "uric acid headaches." The patient, H. F., aged thirty-eight years, had been troubled for years with headaches. They were of the character commonly called "sick headaches." He had had his eyes examined for error of refraction, which he supposed at one time was the cause of his condition. His eyes were found to be in no way abnormal. His urine showed a high specific gravity, was highly colored and contained an immense quantity of uric acid crystals. He was put on uricedin and has been taking it for about three months. During this time he has not been troubled with his headaches. In addition to this he is gaining in weight. A good effect which was observed also in this case was the laxative action of uricedin. This patient was, as a rule, constipated, but after taking uricedin for about ten days his bowels became more regular, until now, with proper attention to diet, he complains no more of this disagreeable trouble.

The results in these two cases speak well for the preparation, and certainly entitle it to be ranked with the standard drugs for the relief of this condition. Uric acid diathesis is a growing evil, in this day of high living, and it certainly demands more attention at the hands of the profession than it has been receiving.

**Duotal.**—Every practitioner is probably well aware of the difficulties that occur with some frequency during a long-continued course of creosote treatment. In many cases it has to be discontinued, in spite of its indubitable disinfectant properties, in consequence of these obstacles. In duotal we possess a drug that has all the advantages of creosote, without its deleterious effects.

Duotal Von Heyden is 90.5 per cent. of pure guaiacol chemically combined with carbonic acid. It is a white, crystalline, odorless and tasteless powder, insoluble in both hot and cold water, and it can be taken without causing any difficulties whatsoever.

For experimental purposes it was administered to a series of patients at the "Heilanstalt Alland." They were chiefly those in whom there was no improvement in weight, in spite of treatment, in consequence of the anorexia.



The mode of administration was the following: During the first four or five days a single dose of 0.5 gram ( $7\frac{1}{2}$  grains), in a wafer, was given once daily after dinner. Then the dose was doubled. A few days later 1.5 grams ( $22\frac{1}{2}$  grains) was given daily, divided into three doses. Finally the daily amount was slowly increased up to 4.0 or 5.0 grams (60 to 75 grains), and at this point it was maintained for a considerable period of time.

Thirty-two persons altogether took the drug for two months each, two of them being ambulant patients.

In five of these cases the duotal treatment was stopped after three weeks, because the patients' appetites got worse. In all the other cases there was a marked improvement in the appetite. In the two ambulatory cases there was an increase of weight in fourteen days of 1.6 and 1.4 kilograms ( $3\frac{1}{2}$  lbs. and  $3\frac{1}{10}$  lbs.) respectively. Twice we obtained a good result when obstinate constipation was present. After four weeks' administration of the duotal in the above doses the movements of the bowels became regular.

One patient, who began with daily doses of 1.0 gram (15 grains), after four days took a single daily dose of 3.0 grams (45 grains) for a long time. He had suffered from very marked loss of appetite; but it became good after ten days of the treatment, and in four weeks his weight increased 3.0 kilograms (6 $\frac{3}{4}$  lbs.). Another female patient entered the institution weighing 51.4 kilograms (113 lbs.). During four weeks of other treatment her weight had not increased. Duotal was then prescribed, and in as short a time as eight days thereafter her weight was 52.7 kilograms (116 lbs.).

In consequence of its stimulating effect upon the appetite duotal is to be highly recommended for hospital and private practice; and even in the special institutions for the treatment of the tubercular disease it is a very valuable aid to the general dietetic and hygienic treatment.—By Dr. Julius Pollak, House Physician, in *Wiener klinische Wochenschrift*, No. 3, 1900, January 18th.

**Protonuclein in Diphtheria.**—Something over a year ago, was called to see R. F., aged about ten. Found him drowsy with high fever, rapid pulse, face dusky red and quite irritable. On examination throat presented a suspicious look, but could not make a positive diagnosis until next day, which was diphtheria. Ordered a tablet of protonuclein every three hours, washed upper air passages with a solution of hydrogen peroxide, and used protonuclein special locally. This case was unpromising from the first and was complicated with a venous oozing from the nares for about a week. Recovered.

No. 2.—W. F., brother of the above, aged about seven or eight, was taken ill with diphtheria about forty hours after above case, but not so violently. Case progressed slowly. Began as a pharyngeal diphtheria, but laryngeal symptoms developed in a few days. I used protonuclein locally and internally, together with hydrogen peroxide and my usual remedies, and had the satisfaction of seeing the little fellow make a nice recovery.

No. 3.—Ella B., aged about nine, was taken ill with what appeared

to be a simple tonsillitis. Three days after made a call to the baby and found Ella playing with her dolls, but weak. Two days after this was called to see Ella again and found a fully developed case of tonsillar diphtheria. Prescribed protonuclein as with two previous cases, and apparently improved nicely when a nasal diphtheria showed itself, together with the lymphatic involvement. Continued with my protonuclein and the little one made a nice recovery except for a pharyngeal paralysis which persisted for a few days.

No. 4.—Cora B., aged about three and one-half, sister to Ella B., was taken with diphtheria on the same day her mother came down. Nasopharyngeal; used protonuclein as above, and patient made a nice recovery.

In addition to these I have treated eight or ten others suffering from diphtheria of a mild type. In case No. 4 there was considerable sloughing of the soft parts. Before applying the protonuclein I cleansed the parts with hydrogen peroxide. I used your protonuclein in a very unpromising case of typhoid fever this fall with marked results, and had the satisfaction of seeing him make a nice recovery.

**The Dosage of Orphol.**—Communications upon the subject received from physicians lead us to believe that orphol is often exhibited in quantities too small to produce the best results. Bearing in mind the innocuous nature of the drug, the rapidity of peristalsis in most cases in which it is indicated, and the amount of material to be disinfected, the remedy should be given in relatively large doses (ten to fifteen grains for adults) and frequently repeated. In all instances in which the fecal discharges are unduly offensive it should be vigorously pushed until the stools are completely deodorized. Schering & Glatz, 56 Maiden Lane, New York.

**Tritica.**—To meet the demands of the profession and render available the known therapeutic properties of triticum (couch grass), the Searle & Hereth Company, of Chicago, placed "tritica," S. & H. Co., in the hands of physicians several years ago. By special process of manufacture the medicinal properties of the crude drug are extracted and preserved unimpaired. Tritica is indicated in all inflammatory diseases of the bladder, whether acute or chronic. It can be safely recommended as of value in cases of chronic cystitis, with irritable bladder and pain attending acute exacerbations. It renders the urine bland and unirritating.

It is best administered in one or two teaspoonfuls, increased to tablespoonful doses when necessary, in hot water every two hours until relief is secured.

**Salfene.**—Salfene is a product of the amido benzene series. It occurs in white, amorphous or crystalline powder, having an alkaline reaction. It is odorless and has a slightly pungent taste. It is essentially different from many of this series of organic bodies, in that it can be tolerated by the most delicate stomach, and also in its stimulating action on all the vital functions.

**Dose.**—The dose for adults is five to ten grains; children in proportion. The frequency of the dose is to be determined by the physician.

**Preparation.**—It is best administered in the form of powder or tablets



(when very prompt effect is desired the tablets should be crushed before taking). It is slightly soluble in water, but more so in brandy, whiskey and alcohol.

It should be rubbed up with a little glycerine before adding it to any flavored syrups or elixirs, which offer the best vehicles for its administration in liquid form. Salfene is recommended particularly in states induced by exaltation of function of the cerebro-spinal nerve centers, namely, in such conditions as spasms, convulsive and spasmodic coughs, irritation and spasm of the neck of the bladder, nervous irritability, wakefulness, etc. Clinical experience has established it as a safe and useful hypnotic and antipyretic in children, especially when affected with bronchitis or croupous pneumonia. The dose for children will vary from one-half a grain to two grains every two or four hours, as may be indicated.

**Glyco Thymoline (Kress).**—A. H. Sante, M. D., 3141 Laclede avenue, St. Louis, Missouri, reports the following cases:

CASE 1.—Mrs. S., aged twenty-seven, suffered for years from chronic hypertrophy of the tonsils. Swallowing was extremely difficult; she complained that the sensation on swallowing was such as to make her feel that the top of her head was coming off, owing, no doubt, to the pressure of the enlarged tonsils and transmission of pain into the eustachian tubes. I warned her of the danger of allowing this condition to continue; she finally consented to have an operation performed, and on Monday I removed the tonsil and prescribed a gargle of glyco-thymoline (Kress), 50 per cent. solution, to be used every two hours on the first day and increased at intervals by one hour a day until three times a day, at which she was to continue until discharged. On the fourth day she could swallow without difficulty, and was fully discharged. I see her occasionally, and her condition remains normal.

CASE 2.—Miss L., age fourteen years; highly nervous temperament, poorly nourished; gave a history of chronic hypertrophy to both tonsils. She had passed through the routine treatment familiar to physicians without material benefit. I decided to amputate both tonsils, as the hypertrophic condition could in no way be benefited without surgical interference. There had been for some months intolerable pain on swallowing, and each change in climatic condition brought on a relapse, with all its unpleasant sequelæ. On Friday I removed both tonsils, and prescribed a 50 per cent. solution of glyco-thymoline (Kress) as a gargle, to be used four or five times a day. She experienced immediate relief, was discharged on the fourth day perfectly cured, returning to school on the following Wednesday.

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## EDITORIAL DEPARTMENT.

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### THE ANTIMALARIAL INFLUENCE OF LIME.

The great work of Ross, Manson *et al.* in the direction of ascertaining the cause of the dissemination of malaria through the agency of mosquitoes has given us hope to suppose that some day we will be able to eliminate malaria from the rôle of bodily ailments by finding a means of killing mosquitoes, *ergo*, preventing the transmission of the disease to mankind. Already some work has been done in this direction by pouring different products into swampy districts, products which it is claimed will kill the young brood of the mosquito. Gasoline in some form or another is the article that has been used, and with some success, too.

A communication made to the Academy of Medicine by Dr. Roché, of Toucy, on the disappearance of paludism in Puisaye, and the report of Dr. Laveran on the same subject, led Dr. Grellet to look up the literature on the subject of the antimalarial influence of lime (*Rev. d'Hygiene*, No. 8, 1899; *Public Health Reports*, May 11, 1900). This is an interesting report and deserves considerable attention at the hands of the profession. The incorporation into the soil of a certain quantity of lime, used as fertilizer, brought about the disappearance of malaria on the plateau of Chatillon-sur-Loing (Loiret). The fertilizing of the soil was resumed in 1824 on the plateau of Chatillon, after a long cessation, and has since been regularly carried on. In 1840 it was practiced on all the estates of the plateau, and from 1840 dates the disappearance of the fevers. It is also a fact that in countries where lime forms the basis of the soil, malaria is not prevalent. This immunity finds its explanation in the agency of lime and in no other. This is the case with lower Egypt, which, with its periodic



inundations, its marshes, high temperature, defective hygiene, etc., would appear to be a sort of promised land for malaria. Far from this being the case, however, Egypt has always been noted for salubrity.

The shores of the Loire and the Seine and their estuaries are nearly exempt from malaria. The same general immunity is enjoyed by Beauce, situated on calcareous soil, on the right bank of the Loire. The opposite bank, in the region of the Sologne, which is sandy and clayey and very poor in lime, is strongly affected with malaria, although it is much less damp than Beauce. On the channel coast of France the soil is calcareous and exempt from malaria. The basin of the Scheldt consists of clay and granitic formations. At its mouth clay alluvial deposits form, which is an incessant source of paludal malaria. On the contrary, the mouth of the Thames, which is directly opposite to that of the Scheldt and at only a short distance from it, is relatively free from malaria, in spite of the enormous pollution of the water. The water of the Thames comes largely in contact with calcareous deposits. Other examples can also be cited.

This report furnishes a clue for investigation along the line of the prevention of malaria. It is a fertile field for investigation. The matter has for its basis both practical and theoretical evidence. From this basis further experimentation may disclose a means of ridding the earth of the pestilential plasmodium.

#### URETERAL CATHETERIZATION.

Our esteemed friend Dr. Bransford Lewis, of St. Louis, has accomplished a feat which renders ureteral catheterization an easy matter. In the past, ureteral catheterization, in both male and female, has been a task difficult of execution to the most skillful, and impossible to those of ordinary skill.

Dr. Lewis has devised an instrument by means of which the male or female ureters can be catheterized without any difficulty. The immense advantages which go with such an advancement in ureter-cystoscopy can hardly fail to be appreciated by those who have been called upon to decide from time to time acute problems of diagnosis in renal affections. Before this instrument was devised, it was a matter of impossibility for the surgeon to collect the urine from either kidney with accuracy. With the advent of the Harris Segregator, it was thought that this ideal had been accomplished, but repeated trials of that instrument have proved that it was ineffectual and inaccurate; that the water-shed formed by the instrument could not be relied upon: that urine would flow from one side to the other and thereby the inefficiency of the instrument decidedly be made manifest. Therefore, Dr. Lewis' ureter-cystoscope will be hailed with the greatest satisfaction by all those whose work it is to deal with morbid conditions about the kidneys and bladder. It unfolds new possibilities in diagnosis and treatment. It "sheds new light" on fine differential diagnosis.

On inspection of the instrument, the writer was struck by its remarkable simplicity—a *sine qua non* for success in practical surgical instruments. In the main, the Bransford Lewis ureter-cystoscope consists of a tube which carries on its upper surface, the conducting wires for the electric light, and within, on its inner wall, a small tube for guiding the

ureteral catheter to the desired point—*i. e.*, into the ureteral opening. At the ocular extremity is the handle for controlling the direction of the instrument; at the distal end, contained within the curved tip, is the electric lamp, of low tension, affording sufficient light for illumination, but generating hardly any heat; permitting, therefore, the use of the cystoscope within the empty bladder and without the complicating presence and often interference of fluid. The light from the lamp is shed on the adjacent membrane through the glass window. The lamp is brought up to the ureteral orifice and the ureteral catheter—a small silk-web catheter—passed into it.

The instrument is ideal. No difficulty is experienced in operating it; no heat is generated by the electric lamp; there are no complicating features about the procedure of operation to render it useless in the hands of the operator. In short, it accomplishes the purpose and does it well. Dr. Lewis certainly deserves the heartiest congratulations from the profession at large for this great boon which he has vouchsafed them. He has established a precedent along an untrodden path. He has "trekked" well, and the benefits which will go with this new instrument and its usage will live long after him. The solution of such a difficult problem certainly is worthy of praise. We feel sure that the profession will give to Dr. Lewis and his instrument that praise which both merit. G.

#### ANTIPNEUMOTOXIN IN PNEUMONIA.

It has been the endeavor of bacteriologists for some time to find a specific antitoxin for the treatment of cases of acute lobar pneumonia. The general fatality of pneumonia is so great that the discovery of a curative serum for this disease is calculated to be hailed with the greatest satisfaction by clinical observers.

Ever since F. Klemperer, in 1891, succeeded in immunizing rabbits against the micrococcus lanceolatus of pneumonia, assiduous work has been done along these lines. From time to time favorable results have been reported, but nothing very substantial has been done up to the present time. The work has been attended with much difficulty by reason of the fact that it is exceedingly difficult to obtain a micro-organism which will retain its virulence and thereby be of use as an agent for immunizing the intermediate animal. The rabbit is an animal of such small size that it is practically impossible for one to obtain sufficient serum from it to protect man against the onslaughts of the micrococcus lanceolatus.

It was with the publication of the work of Washburn that new hope was raised in the minds of medical men that a curative agent of this disease could be evolved by antitoxin methods of cure. Washburn, and after him Pane and de Renze, succeeded in immunizing horses against the pneumococcus, and found that the serum so produced had an apparent effect in modifying the course of pneumonia in man. Pane reported nine cases treated with this serum with fair results, and insists that just as in diphtheria the serum must be used early in the course of the disease in order to obtain results of appreciable value.

Charles B. Canby reports a case of pneumonia treated with the antipneumotoxin with excellent results (*Maryland Med. Jour.*, March, 1900). The crisis was cut short and amelioration followed instantaneously. Two other



cases occurring in the practice of another physician are reported by the same writer in which equally good results were obtained. It is quite gratifying to hear that we are on the eve of acquiring a definite means of combating this disease. It is to be hoped that this remedy, antipneumotoxin, will be given a fair trial by the profession and its effects judiciously noted and results recorded. It is not a fortuitous circumstance when we have a remedy like this launched upon the tumultuous sea of therapeutics, and it should be given a warm welcome and watched zealously, for it will bring about a change in mortality records likely to be epoch-making.

### DEXTRINIZED GRUEL IN COLIC OF INFANTS.

The pathology of human milk is beginning to unfold untold possibilities in the way of finding rational therapeutic agents for the treatment of those affections of infancy which are dependent upon faulty breast-milk. It is becoming well known now that the mother's milk is the cause of many affections of the newborn child, gastro-intestinal affections in infancy being due in many instances to some fault in the mother's milk. Just what that fault is in every instance is only to be ascertained by taking a careful clinical history of the case, counter-balanced by a careful analytical chemical examination of the milk. It is a positive fact that the excess of proteids in some milk goes with gastro-intestinal infections in children fed on this proteid-excess milk. This is proved by repeated clinical experiences. We may take that symptom-complex included under the heading of "colic." This is characterized by irritation of the gastro-intestinal tract with excessive production of gas in the intestinal tube. This production of gas is due to the splitting up of the proteid elements of the milk by the gas-producing bacteria of the intestine, such as the *bacillus coli communis*, the *bacillus lactis aerogenes*, etc.

The problem which confronts the practical clinician, then, is the discovery of something which will inhibit this gas-production. It is a common laboratory experience that the addition of some form of the carbohydrates to living cultures of bacteria will inhibit and check their growth. Taking advantage of this fact, much good has been achieved in the treatment of colic of infants by giving dextrinized gruel, which acts by inhibiting the gas-production and overcoming the irritation. The gruel is made by taking a tablespoonful of rice to a quart of water, boiling it for some time, straining it through a cloth and adding some diastasic agent to it, such as the diastasic essence of pancreas. This is fed to the child before it is put to the breast. It promises to be a "great find" in infantile therapeutics. It has been used quite extensively, and will find a safe place in the armamentarium of the practical pediatricist.

### THE MUSIC-CURE MOVEMENT.

With our increased knowledge of physiology and experimental medicine, we are rapidly nearing the Mecca of therapeutics. Special attention is being given now to the so-called "music-cure" for the treatment of disease. Advantage was taken of the stimulating effect of music on the animal organism ages ago, and the impetus recently given to this movement by a paper read before the French Academy by Dr. Ferrand is but

the outcome of this almost prehistoric practice. The effect of music on the mind is generally recognized as beneficial in that it lifts the entire being into a higher state. That this effect is communicated to the body is admitted, but the extent of physical benefit derived from it has never been ascertained either by musicians or scientists. It would appear that music, to finely strung temperaments, acts as a nervous stimulant, producing parallel effects to those of other stimulants. In Robotham's "History of Music," Volume I., we see this statement: "Looking at the fact that the essence of musical sound is regularity of vibration, we might speculate that its precise effect would lie in restoring, by sympathy with its own regularity of vibration, that rhythmic pulsation of the blood and brain which disease or overexcitement had rendered irregular and fitful. In this way, the diseases which it would particularly reach would be nervous diseases, such as hysterical affections, hypochondriasis, etc., in which tremblings and palpitations are the leading symptoms, and to this order of diseases rather than to varieties of mania we should then refer those affections for which antiquity held it a sovereign specific."

Patsizi, an Italian physiologist, recently studied the effects of music upon one of his patients whose skull was so fractured as to lay bare the brain. He observed that music actually enlarged the brain. The effect on the cerebral circulation was such that sometimes the vessels were constricted and sometimes dilated. Herbert Spencer asserts that music has the effect of massage on the nervous system. Several health resorts along the Mediterranean have introduced music for therapeutic purposes and persons of wealth are taking up the matter as a popular fad. A hospital wholly devoted to the music-cure is about to be built at Bushwick, Surrey, England. There is no doubt that much good can be accomplished in the affections outlined by means of music. It is one of the refinements of therapeutics and of course cannot be relied upon to prove a panacea for all ailments, but that it has its field of usefulness seems incontrovertible.

### WELTMERISM RECEIVES A BLOW.

A clipping from the daily press of May 15, 1900, informs us that the post-office department has issued an order forbidding the delivery of mail matter and the payment of money orders to the American School of Magnetic Healing, the order reading that S. A. Weltmer, president; J. H. Kelly, secretary, and J. H. Kelley, all of Nevada, Missouri, are conducting through the mails a scheme for obtaining money by means of false and fraudulent pretenses. The sense of this restraint can best be ascertained by reading the official order: "The evidence before the department showed that the 'absent treatment' scheme for disease and poverty, while predicated upon the proposition of S. A. Weltmer, was not conducted by him, but by the business managers of the scheme. The persons making remittances for treatment of any disease by the absent method were notified that they must assume a passive attitude at certain hours of the day, and at these hours Professor Weltmer's 'healing thought' would flow out to them. In reality, Professor Weltmer was not in anywise brought into contact with the patient or with his correspondents and knew practically nothing of the business operations of the scheme."

It is gratifying to learn that at last this species of quackery has re-



ceived a blow which seems certain to accomplish a great deal for legitimate medicine, in that one of the principal sources of revenue of this "Missouri fake" has been nipped in the bud through the kindly offices of Uncle Sam. We have despaired for a long time of ever being able to eradicate fakes of the class of Weltmerism from the field of practice, on account of the laxity of laws in this State, coupled with the lamentable fact that our Chief Executive has a *penchant* for fostering medical vampires, such as the osteopaths, the followers of Weltmerism, Christian Science, etc. A higher authority than the State has interfered in this case and we feel sure that Weltmer and his crew will not recover from this blow in a day or two. Would that our State government would take a hand in this cleaning-out process and help the government in their honest efforts! Will that time ever come? There is but one hope in sight and that is in the passage of the new bill for medical practice in this State. Let the profession arm themselves and see to the passage of this bill. If that is done, we can do our own cleaning-out without the help of Uncle Sam, much as we need it now, under existing circumstances.

#### CONCERNING THE PRIORITY OF DISCOVERY.

One of the most important questions which concern medical men is that of priority of discovery. While in many instances it is impossible to properly give credit to the man who merits it, in very many instances the theft of credit for a discovery is intentional, and certainly the practice should be condemned and the individuals resorting to the practice rebuked. We are fully aware of the little material reward that comes to the doctor when he makes a discovery. The position in this regard of the profession is that reward for these things rests almost entirely in the honor attached to the circumstance, and in ninety-nine per cent. of the cases that is all. The position of the medical man is different from that of any other class. When a discovery is made by a tradesman or a mechanic, he straightway proceeds to the patent office, has his device patented, sells the article or realizes material gain from it by the institution known as "royalty." Therefore, inasmuch as the medical man gets only *credit* for his discoveries, let him have that much at least. This matter of improper placing of credit for a discovery was forcibly brought to our mind by hearing a paper read by our esteemed friend, Dr. Thos. F. Rumbold, at the St. Louis Medical Society, on May 5, 1900. As is well known, Dr. Rumbold is one of the pioneer specialists in this part of the country, having practiced rhinology and laryngology for the past fifty years in this city. In his interesting paper, which was entitled "A Review of Progress in Rhinology," the doctor mentioned a case of button in the larynx, which occurred in his practice in the year 1870. He treated this case by extraction of the button through the medium of a rubber tube attached to a syringe, the foreign body thereby being removed from the larynx by suction. This case was reported at that time to the St. Louis Medical Society. Not more than three months ago an article was published in one of our British contemporaries describing an *original* method of removing foreign bodies from the upper respiratory tract by the same means. It can thus be seen that the method as described in the British publication in question was not original, but that credit for it should be given to Dr. Rumbold, for the reason above

stated. Our motto is ever "honor to whom honor is due," and we thereby invite our readers' attention to the above facts.

### THE ANNUAL MEETING OF THE MISSOURI STATE MEDICAL ASSOCIATION.

One of the most successful meetings of the Missouri State Medical Association was that held in Mexico, Missouri, on May 15th to 17th, inclusive. The meeting was called to order on May 15th with a goodly number in attendance. Dr. Walter B. Dorsett, of St. Louis, president of the association, called the meeting to order. After the transaction of business, the scientific program was begun. The program was most excellent and reflected credit, first upon the contributors and secondly upon the Committee on Scientific Communications, through whose efforts the program was arranged. The three days of the meeting were well attended; excellent discussions were brought out on all the papers read. The report of the Priest Committee was received, and upon the recommendation of that committee the president appointed seven members to act as a committee to make efforts looking towards the enactment of the two acts drawn up by the Priest Committee, to-wit: An act creating a State Board of Health and repealing Chapter . . . . of the Revised Statutes of 1899, and an act to regulate the practice of medicine, surgery and midwifery, etc. These bills are carefully drawn up, and if they are passed upon favorably by the State legislature, it will mean that we will have a law here in this great State of Missouri which will equal that of any other State in the Union. Quackery will see its downfall with the enactment of these bills.

### THE FAMINE IN INDIA.

Tales of dire distress come to us from the far East. Famine has again set foot in India and the inhabitants of that country are dying off like flies. Thousands of people have already perished from want of food and the death-rate is still climbing up, despite all the efforts to relieve the situation on the part of the English authorities. To the horrors of the famine, those of pestilence have been added. Cholera has broken out in the famine-stricken districts, and a two-fold danger threatens these people. The situation is pitiable, because of its terrible picture of the wholesale loss of human life, and secondly because all attempts to remedy the condition promise but little. The uselessness of attempting to carry out rules of quarantine among a people imbued with the religious ideas prevalent in the East has been proved time and again. Every measure designed for the relief of their condition is fought with the fanaticism born of thousands of years of inheritance, and fostered by the all-powerful religious leaders of the country. 'Tis like storming a fortress bristling with guns to attempt to relieve these people in their struggles with an epidemic disease.

### WHAT ARE "LIBERAL PHYSICIANS?"

A letter from the "National Association of Liberal Physicians, Surgeons and Dentists" is before us. The letter tells us that the association is organized for the purpose of protecting *competent* licensed and un-



licensed practitioners against the inroads of the "great medical trust." Reading along a little further we find that the great medical trust referred to means the legitimate practitioners who secure the enactment of good medical laws, the institution of State Boards of Health, and, in short, all those whose desire it is to raise the standard of medical education and practice. The "National Association of Liberal Physicians, Surgeons and Dentists" is nothing more nor less than a palpable fraud, an illegitimate offspring of medicine, a scheme of charlatanism to secure protection against the severe hand of the law. Its principles are: "let anybody practice medicine if they want to; let the osteopath, the magnetic healer, the Christian scientist go on their (un-) peaceful way, killing as they go; in short, do everybody or they'll do you." This roughly comprises the general aims of the "association." One would suppose that these ardent fakirs would not have the effrontery to put their views into black and white and have the audacity to send them to reputable medical men whose views they plainly know; but when one thinks of the fact that they stoop to anything and stop at nothing, then this latest action is not surprising. The letter shows us that the osteopaths and their brothers-in-arms, the magnetic healers, etc., are about to form an amalgamation to fight law and order as personified in the laws for practice in the different commonwealths of the Union. It is another warning-note sounded for the benefit of the regular profession, telling them to get together, to arm themselves to the teeth and to exterminate these vermin from the face of the earth. Under these circumstances one wishes that the Federal Court could have the power to issue an injunction of restraint against those vandals who thus publicly dare parade their principles in the shape of this letter, which shows us unmistakably that its promoters are against all law and order.

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Jones records a series of cases showing various conditions of the stomach contents in which indicanuria was looked for (*N. Y. Med. Jour.*). In the first group free HCl was present, indicanuria absent. There were eighty-five such cases in the second group. He reports thirty-six cases in which HCl was present, and also indicanuria. In the third group there were twenty-five cases in which both HCl and indicanuria were absent. In the fourth group there were sixteen cases in which free HCl was absent and indicanuria present. The whole series of cases shows that there is no fixed and constant relation between indicanuria and the secretion of HCl in the stomach. The presence of combined HCl is important in preventing indicanuria. But the gastric secretion is not alone an important matter. One must always consider the condition of the intestines, particularly the amount of bile and pancreatic secretion.

## ORIGINAL ARTICLES.

### A SINGLE IMPRESSION MADE UPON THE MIND OF A NON-PREGNANT WOMAN CAUSES DEFECTS IN HER EIGHT SUBSEQUENT (NOT SUCCESSIVE) PREGNANCIES, EXTENDING OVER A PERIOD OF FIFTEEN YEARS—EIGHT ALBINOS, FOUR WELL DEVELOPED, FOUR ANENCEPHALOUS, FOUR BREECH PRESENTATIONS—ILLUSTRATED.

BY P. B. McCUTCHON, M. D., of New Orleans, Louisiana,  
Second Vice-President Louisiana State Board of Health.

THERE seems to be a well-founded popular belief that impressions made upon the mind of a pregnant woman would cause defects in the child with which she is pregnant at the time.

But the history of the case which I here present differs in so many respects from those usually given as to render it very unique.

A newly married woman, brunette, and her husband, who is also a brunette, went to a museum where they saw a male albino, which interested them both very much; in fact, made an *impression* upon them. They thought a great deal of him and often spoke of him to their friends. About one month later she became pregnant (she insists that she was not pregnant when she saw the albino) and in the eighth month of pregnancy she was delivered of a girl with black hair and eyes. It was still-born, due, as the mother believes, to her carrying a heavy bundle.

Nothing remarkable in this, but let us continue to follow up the developments as they occur.

Eleven months later a well-developed boy is born whose *hair is white and eyes are pink—a perfect albino* like the man they had seen in the museum.

This child lived until he was seventeen months old, when he died from "teething."

The third child is another boy, who, like the first one, has black hair, but blue eyes. He lived thirteen months and died from the effects of being scalded with hot milk.

The fourth child, a girl, a perfect albino, lived a few minutes; death was due to slow delivery, as she presented by the breech.

The fifth child was an anencephalous albino boy, still-born, breech presentation.

The sixth child was also an anencephalous albino girl; she lived a few minutes. See illustrations Nos. 1 and 2.

The seventh, a boy with black hair and eyes, was well developed and lived two months. Death was due to colic.



The eighth, an albino boy, lived a few minutes.

The ninth, an albino girl, lived three months. This child also died of colic.

The tenth, an albino girl, lived one year. Most probably death was due to congestion of the lungs.

The eleventh, an albino girl, was born on March 20, 1900, and is still alive April 21st. The presentation was the left knee (breech), and the labor was long and tedious, and it was only by quick delivery after I ruptured the membrane, which I was careful not to rupture until there was complete dilatation of the parts, that I succeeded in saving its life.



FIG. 1.

Thus we have the remarkable fact that an impression made upon a *non-pregnant* woman causes defects (bodily) in her eight subsequent, but not successive, pregnancies, for we see that the first, third and seventh children were without defects, and that there have been born to this couple during the past fifteen years eleven children—five boys and six girls, of whom eight, five girls and three boys, were albinos.

Three, two boys and one girl, had black hair and eyes. Four breech presentations. Four anencephalous children, two of which were breech presentations.

All the children have died except one (now one month old). The longest time any one lived was seventeen months.

The father is now forty-three and the mother thirty-nine years old, so that their child-bearing period is not yet closed, and this same impression may manifest itself upon children still to be born.

I delivered the fifth, sixth and eleventh child, and can therefore vouch for the accuracy of their condition, and have no reason to doubt the statements made by the parents about the others and the cause which they believe produced them.

Can that peculiar condition of the mind which enables it to receive impressions and transmit them to the offspring be inherited?

This is a question which may throw considerable light upon the cause of maternal impressions.

In this case we are told that an uncle's wife had two deformed (bodily)



FIG. 2.

children; one's head was split open (breech presentation, still-born). This deformity was caused by the mother seeing a hog with its head split open. Some one in trying to kill it hit it in the head with an axe and it ran off in an alley; this woman heard it squealing, opened the window and saw it.

The next baby had six fingers on each hand and six toes on each foot; cause not ascertained.

These children my patient had never seen but was told of them.

My patient's mother, during her pregnancy with her eldest daughter, examined a dead baby whose right hand was smaller than the left, and the right arm was shorter. She was born with the same deformity. This lady is still living.



Therefore, we may have some foundation for the suspicion that she inherited a certain condition of the mind to receive and transmit impressions to her offspring.

Again, what influence can consanguinity produce upon the minds of the parents?

This man and his wife are first cousins. Husband's mother and wife's father were sister and brother.

Then again, is it possible for an impression made upon the mind of the father to influence the foetus?

My patient says that her husband thinks and talks about her having albinos much more than she does.

I have not been able to find any mention of this phase of the subject unless we draw a different conclusion than the author, Barton Cooke Hirst, M. D., does.

From an article entitled "Diseases of the Foetus," I extract the following: "I have recently been told of a remarkable case—a lady was obliged to pass the bridal night with an intoxicated bridegroom; conception occurred and the child became an idiot; three subsequent children were also mentally defective, although there was no taint of insanity on either side of the house.

The impression of deep disgust experienced at the first conception exerted an influence on the development of the subsequent children."

Dr. Hirst concludes that the impression of deep disgust made upon the mother was the cause of the children being defective. But why can it not be the fault of the father? We are too prone to put the fault upon the woman.

Here we have the husband's brain (nervous system) profoundly influenced; the mother was not pregnant; he says "conception occurred," but it may not have taken place that night; her child became an idiot. Three subsequent children were also mentally defective. Nothing is said about the bodily development. This case is very similar to mine, and the cause appears to me to be the condition of the husband rather than the wife, and the influence is transmitted to three subsequent—does not say successive—pregnancies.

Impressions made upon the *pregnant* woman are every-day occurrences, and we can give a number of cases of defective children traced to influences upon the mother.

Dr. W. C. Dabney, in an exhaustive article on "Maternal Impressions,"<sup>1</sup> gives a table of ninety cases, all of which were produced upon the *pregnant* woman.

Only one woman (four months pregnant) saw an albino at a circus; result—the child had a patch of white hair on its head. Nothing is said about subsequent pregnancies.

The following are his conclusions:

"With the facts before us the following conclusions with respect to 'Maternal Impressions' seem to me to be warranted:

*First.*—Impressions made upon a pregnant woman are capable of causing mental and bodily defects in her child.

<sup>1</sup> Cyclopaedia Diseases of Children.—Keating.

*Second.*—Neither mental nor bodily defects are often (comparatively speaking) attributable to mental impressions.

*Third.*—The defects attributable to mental impressions may be either errors of development or “marks” which are apparently due to circulatory or inflammatory disturbances.

*Fourth.*—The defects due to errors of development have, as a rule, been attributed to impressions made at a period of pregnancy when such errors of development are known to occur.

*Fifth.*—The other defects (marks, etc.) have, as a rule, been attributed to impressions made at a later stage of pregnancy, when circulatory and inflammatory disturbances would be most reasonably expected.

*Sixth.*—In a very large proportion of cases there is a striking similarity between the object causing the impression and the defect in the child.

*Seventh.* It is not necessary for the woman to be *conscious* of the impression, or to *expect* a defect, for such a defect to occur.

*Eighth.*—In a very considerable proportion of cases the woman has stated the nature of the impression and the anticipated defect before the birth of the child.

*Ninth.*—The impressions are generally due to emotional disturbances, which are nearly always of an unpleasant character, but physical pain is capable of producing impressions which may induce defects.

*Tenth.*—An impression of considerable violence may produce an impression in a short time, even a few hours—but, as a general rule, the duration is probably much longer than this.

*Eleventh.*—Maternal impressions are capable of producing defects in the lower animals.

*Twelfth.*—Defects traceable to maternal impressions are sufficiently numerous and sufficiently serious in character to necessitate the avoidance by any pregnant woman of all violent emotional disturbances, especially those of an unpleasant character.”

In all of these ninety cases the women were *pregnant*.

In the XXX. Chapter of Genesis we find:

“And Jacob took him rods of green poplar and of the hazel and chestnut tree; and pilled white streaks in them, and made the white appear which was in the rods. And he set the rods which he had pilled before the flocks in the gutters and in the watering troughs when the flocks came to drink: that they should conceive when they came to drink: and the flocks conceived before the rods and brought forth cattle ring streaked, speckled and spotted.”

Now, these flocks were impressed *before* or during the very first days of conception, and this influence was most likely upon both males and females, and the result was that the cattle were *marked* in a manner similar to the thing producing them.



FACTS OF INHERITANCE.<sup>1</sup>

BY J. ARTHUR THOMPSON, M. D., of London, England.

[CONTINUED FROM MAY ISSUE.]

## IV.—REGRESSION.

WE HAVE already referred to the fact which stares us in the face, that there is a sensible stability of type from generation to generation. "The large," Mr. Galton says, "do not always beget the large, nor the small the small; but yet the observed proportion between the large and the small, in each degree of size and in every quality, hardly varies from one generation to another." In other words, there is a tendency to keep up a specific average. This may be partly due to the action of natural elimination, weeding out abnormalities, often before they are born. But it is to be primarily accounted for by what Mr. Galton calls the fact of "filial regression." Let me take an instance from Mr. Pearson's "Grammar of Science." Take fathers of stature 72 inches, the mean height of their sons is 70.8, we have a regression towards the mean of the general population. On the other hand, fathers with a mean height of 66 inches give a group of sons of mean height 68.3 inches, again nearer the mean. "The father with a great excess of the character contributes sons with an excess, but a less excess of it; the father with a great defect of the character contributes sons with a defect, but less of it."

As Mr. Galton puts it, society moves as a vast fraternity. The sustaining of the specific average is certainly not due to each individual leaving his like behind him, for we all know that this is not the case. It is due to a regression which tends to bring the offspring of extraordinary parents nearer the average of the stock. In other words, children tend to differ less from mediocrity than their parents.

This big average fact is to be accounted in terms of that genetic continuity which makes an inheritance not dual, but multiple. "A man," says Mr. Pearson, "is not only the product of his father, but of all his past ancestry, and unless very careful selection has taken place, the mean of that ancestry is probably not far from that of the general population. In the tenth generation a man has (theoretically) 1024 tenth great-grand-parents. He is eventually the product of a population of this size, and their mean can hardly differ from that of the general population. It is the heavy weight of this mediocre ancestry which causes the son of an exceptional father to regress toward the general population mean; it is the balance of this sturdy commonplaceness which enables the son of a degenerate father to escape the whole burden of the parental ill."

At this point one should discuss reversion or atavism, but it is exceedingly difficult to get a firm basis of fact. I use the term reversion to include cases where through inheritance there reappears in an individual some character which was not expressed in his parents, but which did occur in an ancestor. I say advisedly "through inheritance," in order to exclude those cases where the reappearance of the character can be accounted for

<sup>1</sup> An address delivered at the Royal Institution of Great Britain, March 30, 1900.

in some other way. The term thus defined is a very wide one, and not very fortunate, but it is difficult to get rid of. I use it to refer to abnormal as well as normal characters, even to include the reappearance of characters, the normal occurrence of which was outside the limits of the race altogether—*i. e.*, in some phyletically older race. In other words, the character whose reappearance is called a reversion may be found within the verifiable family, within the breed, within the species, or even in a presumed ancestral species.<sup>2</sup>

The best illustrations of reversion are furnished by hybrids. Thus in one of Professor Cossar Ewart's experiments a pure white fantail cock pigeon, of old established breed, which in color had proved itself prepotent over a blue pouter, was mated with a cross previously made between an owl and an archangel, which was far more of an owl than an archangel. The result was a couple of fantail-owl-archangel crosses, one resembling the Shetland rock-pigeon, and the other the blue rock of India. Not only in color, but in shape, attitude and movements there was an almost complete reversion to the form which is believed to be ancestral to all the domestic pigeons. The only marked difference was a slight arching of the tail. Similar results were got with fowls and rabbits.

But great carefulness is necessary in arguing from the results of hybridization to those of ordinary mating, and even if some of the phenomena of exclusive inheritance seem to show reversion to a near ancestor we need a broader basis of fact than we have at present before we can formulate any law. It is impossible to read the recorded cases without becoming convinced that many phenomena are labeled reversions on the flimsiest evidence. Thus the occurrence of a Cyclopean human monster with a median eye has been called a reversion to the sea-squirt, and gout has been called a reversion to the reptilian condition of liver and kidneys. Often there is not the slightest attempt to discriminate between true reversion (*i. e.*, the re-expression of latent ancestral characters) and the phenomena of arrested development, or of abnormalities which have been induced from without. Often, too, there has been no scruple in naming or inventing the ancestor to whom the reversion is supposed to occur, although evidence of the pedigree is wanting; and the vicious circle is not unknown of arguing to the supposed ancestor from the supposed reversion, and then justifying the term reversion from its resemblance to the supposed ancestor. Little allowance has been made for coincidence, and the postulate of characters remaining latent for millions of years is made as glibly as if it were just as conceivable as a throw-back to a great-grandfather.

I do not see any way out of the theory that characters may lie latent for a generation or for generations, or in other words that certain potentialities or initiatives which form part of the heritage may remain unexpressed for lack of the appropriate liberating stimulus, or for other reasons, or may have their normal expression disguised. The drone bee has a mother, the queen, but no father, for the eggs which develop into drones

<sup>2</sup> Professor Karl Pearson defines a *reversion* as "the full reappearance in an individual of a character which is recorded to have occurred in a definite ancestor of the same race," and *atavism* as "a return of an individual to a character not typical of the race at all, but found in allied races supposed to be related to the evolutionary ancestry of the given race." "In reversion we are considering a variation, normal or abnormal, from the standpoint of heredity in the individual; in atavism we are considering an abnormal variation from the standpoint of the ancestry of the race." But as the two words seem to be used by some authors in the converse way, or as equivalent, and as it is surely difficult to define the field of abnormal variation, I have adhered to the wider usage.



are not fertilized, yet his structure differs from that of the queen in other points besides those immediately related with sex, and he may in his turn be the father of future queens and workers. At the same time it does not follow that the reappearance of an ancestral character not seen in the parents is necessarily due to the reassertion of latent elements in the inheritance. It may be a case of ordinary regression; it may be a case of arrested development; it may be an extreme variation whose resemblance to an ancestral characteristic is a coincidence; it may be an individually acquired modification, reproduced apart from inheritance, by a recurrence of suitable external conditions, and so on. In short, what are called reversions are probably in many cases misinterpretations.

#### V.—GALTON'S LAW.

The most important general conclusion which has yet been reached in regard to inheritance is formulated in Galton's law. Mr. Galton was led to it by his studies on the inheritance of human qualities, and more particularly by a series of studies on Basset hounds. It is one of those general conclusions which have been reached statistically, and I must refer for the evidence and also for its strictest formulation to the revised edition of Mr. Pearson's "Grammar of Science."

As we have seen, it is useful to speak of a heritage as dual, half derived from the father and half from the mother. But the heritable material handed on from each parent was also dual, being derived from the grandparents. And so on, backwards. We thus reach the idea that a heritage is not merely dual, but in a deeper sense multiple.

Though a comparison with the inheritance of property cannot be exact, we may fancy a youth inheriting an estate, in regard to which it might be said that half of it had belonged to his father and half of it to his mother, yet one with a full knowledge of the family history and the gradual acquisition of the property, might be able to make the story of the heritage much more interesting by showing how this meadow was due to a grandmother and that forest to a great-grandfather.

To appreciate the possible complexity of our mosaic inheritance we must recall the number of our ancestors. We have two parents, four grandparents, eight great-grandparents, about sixteen great-great-grandparents, and so on. "If," as Professor Milnes Marshall said, "we allow three generations to a century, there will have been twenty-five since the Norman Invasion, and a man may be descended not merely from one ancestor who came over in 1066, but directly and equally from over sixteen million ancestors who lived at or about that date." But on these theoretical lines the existence of one man to-day would involve the existence of nearly seventy thousand millions of millions of ancestors at the commencement of the Christian era. Which is absurd, for it overlooks the frequent occurrence of close intermarriage, of cousins for instance.

The problem of reduction in the number of ancestors has been very carefully discussed by genealogists like Professor Lorenz and Dr. F. T. Richter, but we should soon lose ourselves in the discussion. We must be content to take one example. Theoretically, Kaiser Wilhelm II. might have had in the direct line the number of ancestors indicated in the upper

row of the following scheme; the second row indicates the number actually known, on to the twelfth generation; the third row gives the number of those possible ancestors of whose existence there is deficient record; and the fourth row gives the probable total.

Generations.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.
(1) Theoretical number	2	4	8	16	32	64	128	256	512	1024	2048	4096
(2) Actual number known	2	4	8	14	24	44	74	111	162	206	225	275
(3) Inadequately known	—	—	—	—	—	—	—	5	15	50	117	258
(4) Probable total	—	—	—	—	—	—	—	116	177	256	342	553

According to Galton's law, "the two parents between them contribute on the average one-half of each inherited faculty, each of them contributing one-quarter of it. The four grandparents contribute between them one-quarter, or each of them one-sixteenth, and so on; the sum of the series,  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \text{etc.}$ , being equal to 1, as it should be. It is a property of this infinite series that each term is equal to the sum of all those that follow: thus  $\frac{1}{2} = \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \text{etc.}$ ;  $\frac{1}{4} = \frac{1}{8} + \frac{1}{16} + \text{etc.}$ , and so on. The prepotencies or subpotencies of particular ancestors, in any given pedigree, are eliminated by a law that deals only with *average* contributions, and the varying prepotencies of sex in respect to different qualities are also presumably eliminated."

This law of ancestral inheritance, which states that each parent contributes on an average one quarter, each grandparent one-sixteenth, and so on, rests on researches on human stature, etc., and on color in Basset hounds, but Professor Karl Pearson trusts it even more because of its success in predicting results. He is very enthusiastic on the subject, and finishes a paper on Galton's law with the following words: "It is highly probable that it is the simple descriptive statement which brings into a simple focus all the complex lines of hereditary influence. If Darwinian evolution be natural selection combined with *heredity*, then the single statement which embraces the whole field of heredity must prove almost as epoch-making to the biologist as the law of gravitation to the astronomer." Reference should here be made, however, to Mr. Pearson's recent paper (*Proc. Roy. Soc.*, London, March, 1900) on the law of reversion.

The aim of this lecture has been to present in brief compass a statement of the leading facts of inheritance, which should be clear in the minds of all. I have said nothing in regard to the transmissibility of acquired characters, for this cannot be ranked at present as an established fact, and I have left some other doubtful points unmentioned. Allow me in conclusion to make this simple remark: The study of inheritance leaves a fatalistic—almost paralyzing—impression in many minds, especially perhaps if it be believed that the acquired results of experience and education—of "nurture," in short—cannot be entailed upon the offspring. To some extent this fatalistic impression is justified, but it is well that it should rest upon a sound basis of fact and not on exaggerations. In a



sense we can never get away from our inheritance. As Heine said, half bitterly, half laughingly: "A man should be very careful in the selection of his parents." On the other hand, although the human organism changes slowly in its heritable organization, it is very modifiable individually, and "nature" can be bettered by "nurture." If there is little scientific warrant for our being other than skeptical at present as to the inheritance of acquired characters, this skepticism lends greater importance than ever, on the one hand, to a good "nature," to secure which for offspring is part of the problem of careful mating; and, on the other hand, to a good "nurture," to secure which for our children and children's children is one of the most obvious of duties, the hopefulness of the task resting upon the fact that, unlike the beasts that perish, man has a lasting external heritage, capable of endless modification for the better.

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## SMALL-POX: ITS PREVENTION AND TREATMENT.<sup>1</sup>

By R. S. KELSO, A. M., M. D., of Joplin, Missouri.

**S**MALL-POX is a disease which the great majority of physicians will never be called upon to treat, yet every physician should have firmly fixed in his mind some definite ideas as to its diagnosis, prevention, and treatment. Otherwise he may be called to a case where it is little expected, and failing to recognize the disease, do an inestimable injustice to the community by failing to take the proper steps for its suppression.

In recent years the death-rate from small-pox, as compared to the entire number from other causes, is small, yet its loathsomeness, its extreme contagiousness, its liability to disfigure the patient for life, and its high percentage of mortality, make it perhaps the most feared of all diseases to which the human family is subject. Yet, strange to say, it is the only disease for which we have a safe and infallible preventive.

In this disease, perhaps more than any other, a correct diagnosis is all important. I have never attempted to accurately diagnose an isolated case by any symptoms previous to the eruption, though a persistent fever with a temperature of 104 to 106 degrees, with much aching in the back and hips, is very suspicious. The eruption appears almost uniformly in two days after the onset of fever, which is a little later than scarlet fever, and a little earlier than measles. The eruption begins as a macula, when it is liable to be mistaken for scarlet fever, but lacks the sore throat and the diffuse redness. In a few hours it has reached the papular state, when it may be mistaken for measles, but lacks the coryza, lachrymation, etc., and the papulæ become constantly more and more prominent for eight days, passing from papulæ to vesicles, and then to pustules.

When seen only in the vesicular stage, it has been mistaken for chicken-pox by persons ignorant of the nature and symptoms of both diseases. The history of the case ought to clear up all doubt. Chicken-pox rarely

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<sup>1</sup> Read before the Medical Association of State of Missouri, May 15-17.

has any severe fever or other constitutional symptoms. The eruption springs up as a vesicle at once, and is full size in a day or two, and gone in a day or two more, while small-pox from the initial fever to the exfoliation of the scabs on the hands and feet is never less than three weeks. The most characteristic symptom, however, according to my observation, and one which is never absent, is the umbilication of the papulæ, vesicles, and pustules. This umbilication when once seen and carefully observed will ever afterwards be recognized, but it is not so easily made plain by description. It begins about the third day of the eruption, when each papula looks as if it were surmounted by a little flat vesicle. As the vesicle fills it seems to fill faster round the edges than in the center, so that the center is perceptibly depressed, and this depression remains until the bursting of the pustules, from the eighth to the tenth day; or if the pustule does not break, which is frequently the case in the concrete form, it begins to dry away in the center first, so that every pustule will have a dark spot in the center. I have frequently felt positive of a diagnosis before this umbilication has appeared, but have always waited for it before ordering a patient to the hospital.

As to prophylaxis, I have already said that we have for this disease a safe and infallible preventive. It is needless to state that I allude to vaccination. In my experience it has more than justified all the claims that have been made for it by its friends. In no case has a single person recently vaccinated had the slightest symptoms of the disease, though many have been constantly exposed in the same room with the most virulent cases from their incipency until death or recovery. One young woman who had never been in the slightest degree exposed to the disease, volunteered to act as nurse, if I would assure her candidly that I believed there was no danger. I did so with the same degree of confidence that I should have done if she had just recovered from the disease. She went, was with many of my patients, attended on one lady until she died; washed, dressed, and helped put the body in the coffin, and the result fully justified my assurance.

Vaccination, also, though so mild as rarely to make the subject sick for even a day, is yet so strong as utterly to destroy the virus of small-pox which has already entered and contaminated the system, if it has sufficient time. In my experience the incubation period of small-pox has averaged about fourteen days, that of vaccination nine; hence those vaccinated before the fifth day after exposure have escaped, on the fifth or sixth day it did not prevent the disease, but modified it; later than that it did no good. The following cases will serve as examples:

Mr. E., who did not know that he had been exposed, and who was boarding with a family consisting of about eight persons besides several boarders, was taken with small-pox in its most virulent form and died. On the second day of the eruption, and the fourth of the disease, all the persons exposed were thoroughly vaccinated, and all escaped except the mother, and as she took it in five days, it was proved that she did not take the disease from Mr. E., but acquired it from some other source.

Thomas P., a neighbor, was attacked about the same time as Mr. E., and the family consisted of about the same number of persons. On the fifth day I vaccinated all members of the family, including two boarders,



and all had light cases of varioloid except the father, mother, and one boarder. The father escaped without a symptom, and the boarder with some fever but no eruption, but the mother, whose vaccination was somewhat delayed in its action, had a very severe case of varioloid, though light if it should be termed small-pox.

A Mr. F. was with his brother when the latter broke out with small-pox, and continued to wait on him. I vaccinated him on the fourth day of his brother's eruption. In about two weeks after exposure he was taken with the usual symptoms of the disease, and in due time the eruption appeared so thick that I told him I feared that his vaccination had done no good, though at that time his arm was swollen and painful. Two days afterward I found him up waiting on his brother again, and he greeted me with "Well, doctor, your vaccination has knocked the stuffin' out of my small-pox," and so it proved. The eruption had receded and was soon gone, with the exception of perhaps a dozen papulæ on his face and a few on his body, which went on to maturity.

I am often asked how long vaccination will protect. This question I am unable to answer definitely. Its power is certainly weakened with time. One of my patients had rather a severe case of varioloid who had been vaccinated fifty-seven years; another, who had been vaccinated forty-seven years, had a very mild case and scarcely went to bed, and his wife, who had been vaccinated forty-five years, was but little worse than her husband. Again, a gentleman who had a large pale scar on his arm, and said it was from vaccination eight years before, had the disease so severely that I certainly should never have suspected that he had been vaccinated at all. His wife, who had been vaccinated about the same time, I revaccinated in two or three places, but without success, and though she was with her husband constantly, and afterwards with a daughter, she escaped untouched by the disease. In the case of the husband I distrust the former vaccination.

There are many disinfectants which destroy the virus of small-pox, among the best being bichloride of mercury, sulphate of iron, and the fumes from burning sulphur, and though rooms, clothing, etc., may be disinfected by them after the patient is well, there is no known substance that will so purify the air in the room of a patient as to protect other persons, without rendering it unfit for respiration, neither is there anything that is of the least avail when taken internally.

As no treatment will materially shorten the natural course of the disease, our object is to mitigate the symptoms, support the strength, and as far as practicable prevent pitting. The first object is best accomplished by controlling the fever from the first. This I have succeeded in doing best with acetanilide and cold applications to the face and head. As a rule I think there are at least four times as many papulæ on the face as on any other part of the body, according to the space. This is not, as many have supposed, because the face is exposed to the air, but on account of the vascularity of the skin. After the papulæ had appeared for at least twenty-four hours, I have in several instances caused a large majority of them to abort by the use of cold water. In other cases water applied to the face has prevented their appearance more thickly than on other parts of the body. That the eruption appeared most thickly on parts where the

skin is most vascular was nicely shown in one of my cases of varioloid. The lady had had erysipelas on the face on one side only, and that side stripped of its epidermis was yet red and tender, and the eruption appeared on that side almost exclusively. In another case the eruption appeared almost exclusively on the right hand and foot of a patient, those parts being affected at the time with inflammatory rheumatism.

As soon as the papulæ begin to umbilicate I have adopted the plan of applying to the face and other parts where the eruption is excessive glycerine with carbolic acid in the strength of about thirty-two to one, and immediately dust with powdered boracic acid. This repeated three or four times a day prevents the burning and itching ordinarily so much complained of, and on the bursting of the pustules absorbs the virus and renders it non-irritating and almost entirely prevents the odor so characteristic of the disease in this stage. The pitting in those of my cases treated in this way was so slight that it almost entirely disappeared in a few months.

I try to give an abundance of good, nourishing food at all stages of the disease, and supplement it during the suppurative and declining stages with tonics and stimulants. Under the treatment thus outlined the death-rate for unmodified small-pox has been about nine per cent., while I have lost no cases of varioloid.

In addition to the treatment of individual cases, when small-pox becomes epidemic, stringent measures should be taken to prevent the spread of the disease and to stamp it out. These consist essentially of the isolation of the infected, quarantine of the exposed, and vaccination, and adequate means must be adopted for their enforcement. Isolated families who are financially able to care for themselves may be quarantined at home, all members showing no symptoms of infection being immediately vaccinated. As soon as the vaccination proves effective on any one, he can be disinfecting and discharged from quarantine, but must not return; and if vaccination has proved effective on all, then the quarantine can be raised as soon as the patient is well and the house and inmates have been disinfecting. When houses are close together, the affected members should be sent to the small-pox hospital, and the others vaccinated and quarantined as before. Persons known to have been exposed and who belong to non-infected families, should be sent to a detention ward, which should be situated some distance from the main hospital, and held for at least fourteen days from last exposure, or till vaccination becomes effective.

Very often when the mother of a family is sent to the hospital, it is better to send the children also, as they are most likely already infected, and only vaccination can save them, any way.

The civil authorities usually appoint a physician to take entire charge of an epidemic, and give him their aid and influence. They are always anxious to know the exact truth as to the prevailing conditions, and act promptly on all suggestions of the physician, but he is always annoyed and hampered in the discharge of his duties by certain persons who assume to know much more than he does, and who for convenience I shall divide into two classes—pessimists and optimists. The pessimist hears and believes the most alarming reports of the spread of the disease into new localities, of the immense number of new cases, of numerous midnight



burials, and of the efforts of the physician and the officials to keep the truth from the public. He keeps close watch on his neighbors, and the health officer is kept on the run to investigate every case of measles, scarlet fever, chicken-pox, or acne within a radius of miles; and the young man whose efforts to sprout a beard have brought half a dozen comedones to his chin, had better take to the woods. Still the methods of the pessimist lean toward the side of safety, the real danger being with the optimist. He doesn't believe there has been a case of small-pox in the city for seventeen years, and certainly no deaths from it in that time. The testimony of variola experts have no weight with him, as the cases are nothing but chicken-pox, syphilis, or Cuban itch. If a case occurs in his family, he conceals it, or if it should prove a mild case, sends the patient out among the neighbors to prove that it could not be small-pox, otherwise the patient would be worse or dead. If his house is quarantined, he feels that a great injustice has been done, and talks about shotguns and suits for damages. In either case he usually manages to expose a large number of his acquaintances. The optimist is found among all classes of society, but editors of newspapers are the worst, and what is very singular, is the fact that however optimistic an editor is in regard to his own town, he is always pessimistic as to the neighboring cities. I am sorry to state in this connection that the optimistic halo sometimes envelops the heads and intellectual faculties even of members of our own profession.

In the epidemic recently pervading many parts of the United States the type has been very mild, a fact which has given some of our optimistic physicians, who have never been within a hundred yards of a case, a good opportunity to air their opinions. They claim that their investigations, conducted presumably by long distance telepathy, have proved to them that it is nothing more or less than Cuban itch. Now, I would like to ask one of these telepathic physicians to explain to me what Cuban itch is. The only itch I know anything about is the old-fashioned scabies, caused by the burrowings of the itch mite or *acarus scabii*, a disease which is the same in Cuba, the United States, Europe, or among the Hotentots of Africa; a disease which, if left to itself, runs a course of "seven years," and then relapses, but if properly treated can be cured in three days. But this Cuban itch of ours always commences with a two days' fever, then an eruption which takes eight days to mature, then ten or eleven days to desiccate and fall off, giving it a term of three weeks in all, and I defy any doctor to shorten or lengthen its course materially by any kind of treatment. I also defy him to find a case of relapse, a case where the patient has had small-pox, or has recently been successfully vaccinated, or to successfully vaccinate a person who has had this Cuban itch. In fact, it seems to be merely a refined expression for what we old-style physicians term variola or small-pox.

## ANALYTIC DIAGNOSIS OF ABDOMINAL TUMORS.

BY BYRON ROBINSON, B. S., M. D., of Chicago.

[CONTINUED FROM MAY ISSUE.]

## THE OVIDUCAL TUMORS.

**O**VIDUCAL tumors are chiefly retention cysts produced by inflammatory processes, occluding the proximal or abdominal end of the oviduct. (a) The oviducal cystic tumors are hydrosalpinx, pyosalpinx, and hæmatosalpinx. (b) The oviducal solid tumors are myoma, carcinoma, and sarcoma.

Retention cysts of the oviduct are the results of endosalpingitis and peritonitis, which obstructs the proximal end by means of plastic exudates. When the proximal end of the oviduct is closed by the mucous pus, blood collects and distends the oviduct in the form of a palpable tumor. The distal end of the oviducal isthmus dilates but very little, while the intramural portion seldom shares in the dilatation. The distensibility of the oviduct depends on the thickness of its walls. The less it is infiltrated with inflammatory products the easier its walls will yield and dilate.

The size, form and consistence of oviducal tumors present wide range.

*The hydrosalpinx* is a thin-walled tumor which is chiefly filled with serous fluid. The shape of the tumor depends practically on the distention of the fluid, for it first accumulates in the proximal end, making the oviducal tumors possess essentially a wedge shape. The peculiarly preformed spiral oviduct with invaginations of the wall projecting into the lumen alters the shape of the tumor producing several chambered cysts connected by more or less narrow openings. If the oviduct distends uniformly it will represent a round retort with the isthmus sharply defined as it practically does not dilate.

*The mesosalpinx* possesses considerable influence with the shape of the hydrosalpinx for the reason that it is shorter than the oviduct; as the oviduct dilates with distending fluid, the short mesosalpinx forces it into a spiral condition similar to that of the distending enteron on its short mesenterium. The spiral windings are generally located in the middle third, due to the shortness of the mesosalpinx. If the distending oviduct develops between the separating blades of the ligamentum latum it will assume a round and not a spiral shape. It will then palpate as a round tumor covered by smooth peritoneum. An oviducal tumor partially collapsed by absorption palpates like a flat band. A hydrosalpinx was doubtless once a pyosalpinx; the pus has become absorbed, leaving the serum.

*The position* of the hydrosalpinx corresponds in general to the normal position of the oviduct. The distal end changes its position but little, while the funnel shape of the dilated proximal end lies in the pouch of Douglas.

In a medium-sized hydrosalpinx perhaps its most frequent position is the region of the sacro-iliac joint; occasionally, however, the hydrosalpinx may be more forward and lie in the utero-vesical pouch. If the hydrosalpinx is free from peritoneal adhesions, it will present a varied range of motion and position. The intraligamentous hydrosalpinx lies



between the blades of the ligamentum latum, close to the uterus. = If it increases in size, it projects the broad ligament proximally to the fundus.

*The mobility* of a hydrosalpinx depends very much on whether it possesses peritoneal adhesions or is located intraligamentous. To a less extent it depends on the length of the mesosalpinx and the length of the ligamentum latum. Occasionally we note a hydrosalpinx which moves freely as far proximally as the umbilicus.

The consistence of a hydrosalpinx is always cystic, whether the cyst be tense or slack. Fluctuation may be obscured by peritoneal adhesions, small quantity of contained fluid, from being covered by the omentum, or adherent viscera. The spanning of the cyst wall depends on the degree of distention. Tenderness on pressure depends on the degree of inflammation; fresh cases are tender, old cases I have examined who presented no tenderness.

In diagnosis the wedge or spiral shape, the cystic consistence, the styled connection to the uterus and posterior pelvic position should receive attention.

*The pyosalpinx* arises from a collection of pus in the oviduct, due to the inflammatory closure of the proximal end. Its base is a suppurative endosalpinx and, perhaps, is the predecessor of hydrosalpinx.

Hydrosalpinx is characterized by thin walls, while pyosalpinx is characterized by thick (infiltrated) walls. A pyosalpinx does not attain such a large size as a hydrosalpinx, because its thick, infiltrated walls will not yield, and it shows a spiral shape relatively limited to that of a hydrosalpinx. Intraligamentous pyosalpinx is wedge or club shaped.

*The position* of a pyosalpinx is almost exactly that of the normal oviduct, because early peritoneal adhesions fix it. The proximal end of the oviduct is found fixed in its normal place—*i. e.*, it passes posterior, and finally curves forward to meet the ovary.

The consistence of a pyosalpinx on palpation is hard and unyielding; the thickness of the walls and the surrounding exudates, with adhesions, do not, in the vast majority of cases, permit demonstration of the fluctuation. Only large quantities of pus in an oviduct will fluctuate under palpation.

*The mobility* of a pyosalpinx depends on the extent of the surrounding exudates. A pyosalpinx always possesses adhesions at first, for that is what closes the proximal end of the oviduct. Later the adhesions might disappear, permitting limited mobility. This form we will call the closed form of pyosalpinx. All of the petals of the fimbriæ have been turned into the oviducal lumen, and the duct is closed forever. It may not give the patient any more disturbance.

*The relapsing pyosalpinx* is produced by turning all the petals of the fimbriæ in the oviducal lumen with the exception of one or two. These few petals, not being turned into the oviducal lumen, do not allow the proximal end to close perfectly, and hence periodically (especially at menstruation) the pyosalpinx relapses by allowing some infectious material to leak into the peritoneal cavity. This we will term the imperfectly closed (perforated) pyosalpinx, which relapses periodically like a perforated appendix. The perforated pyosalpinx (muco-serous perforation) is generally absolutely fixed in position—immobile. Generally the uterus,

oviduct and ovary are fixed in a mass of exudates, and the bladder and rectum have reserved sufficient space to functionate.

*Tenderness on pressure* is nearly always present in pyosalpinx, but practically depends on the peritonitis. Rarely have I examined very old pyosalpinx with no tenderness.

*The hæmatosalpinx* consists in an accumulation of blood, chiefly in the proximal end of the oviduct. The proximal end of the oviduct must be closed first. Hæmatosalpinx may occur in (*a*) hæmatometra, from genital atresia; (*b*) from hæmorrhage in a hydrosalpinx due to trauma or torsion; and (*c*) in oviducal pregnancy after the abdominal end becomes closed. The peculiarities of hæmatosalpinx are not characteristic, but share in common many points with hydrosalpinx—as lumen inflammation and cystic condition.

*The diagnosis* of oviducal cystic tumors rests on the grounds that they lie near the uterus, and that the distal end of the oviduct, the isthmus, is thickened, showing a connection with the uterus. The sausage form may exist proximally, and the peritoneal surface, while the spiral shape exists on the distal surface. Tumors may be found on the surface. The oviducal origin of the tumor can be of worth only when it lies in the position of the normal oviduct.

The palpation of a thick band from the uterus to the tumor is a strong symptom of an oviducal tumor.

The double-sided affection favors oviducal tumors (pyosalpinx), on account of the frequency of existence.

Perimetritic and peritonitic inflammation in oviducal tumors play an immense rôle, because the infection usually passes out of the oviduct onto the peritoneum, and perhaps twenty per cent. of such cases have parametritis from peritonitic extension.

A characteristic of oviducal tumors is that they are the center of peritonitic exudates, and also the central point of pain. Pelvic peritonitis is almost a regular accompaniment of oviducal disease; hence pelvic peritonitis is a symptom that oviducal disease exists.

Hydrosalpinx is frequently mistaken for cystic oviducal tumors.

#### THE DIAGNOSIS OF THE OVARIAN TUMORS.

They are either cystic or solid:

The ovarian cystic tumors:	{	Ovarian follicle.
		Corpus luteum.
		Dermoids.
		Inflammatory.
		Tubo-ovarial.
		Para-ovarian.
Solid ovarian tumors: - -	{	Glandular cystoma.
		Papillary cystoma.
		Fibroma.
		Fibro-sarcoma.
		Carcinoma.



In the diagnosis of ovarian tumors the knowledge of the pedicle or the connection to the uterus is of the greatest signification. The style connecting the ovarian tumor to the uterus is the same as connects the normal ovary, viz., the ligamentum ovarii and oviduct bound in a broad band by the ligamentum latum.

The rock and base of the diagnosis of an ovarian tumor lies in the palpation of its style formation to the uterus, and the cystic consistence is the chief support. The differential diagnosis between a subserous myoma and ovarian tumor lies in the consistence. Also, myoma elongates the uterine cavity. It is sometimes impossible to decide whether an ovarian tumor, encapsulated ascites or a peritoneal exudate is present. I knew a surgeon who, forgetting the catheter, operated on a large, full bladder for an ovarian tumor. The full bladder resembles an ovarian tumor in position, shape, consistence and contour. Echinococcus is liable to be taken for an ovarian tumor. The first half of pregnancy is often mistaken for ovarian tumor, especially when the symptoms of the former are obscure.

I knew well a distinguished surgeon who called a half-dozen of his colleagues to witness an ovariectomy; and exploration proved the tumor to be a pregnant uterus. I have myself mistaken, after careful palpation, a soft oedematous myoma of the lateral wall of the uterus for a pyosalpinx. Ovarian tumors of medium or large size lie in the median line. The percussion wave passes over the entire body in ascites, while the percussion wave is well limited in spanned ovarian tumors, and quite limited in partially filled ones. However, the differential diagnosis between slack and partially filled ovarian tumors and ascites is difficult. It is often difficult to differentiate ovarian tumors from pancreatic cysts. Retroperitoneal and mesenteric tumors may be easily mistaken for ovarian tumors. In fact, I have examined mesenteric cysts which no external palpation could detect from ovarian cysts.

In ovarian, as in all other tumors of the abdomen, the colon should be inflated, to determine its relations to the tumor, by percussion and observation. I have seen, in autopsies, the spleen and stomach lying on the floor of the pelvis; hence such tumors may be mistaken (in the spleen the notch may be felt) for ovarian. Echinococcus cyst may be mistaken for ovarian tumors. Rarely the liver, when mobile, is mistaken for an ovarian tumor.

I have seen the gall-bladder in post-mortems, in the right iliac fossa, containing a gall-stone as large as a hen's egg; and this might easily be mistaken for a solid ovarian tumor.

Liver tumors move with respiration. The intraligamentous ovarian tumors all have a more or less limited motion because they distend the blades of the ligamentum latum, and produce more or less fixation to the pelvic floor. The most important factor in the differential diagnosis of ovarian tumors lying between the blades of the broad ligament is the relation to the uterus.

## COMPOUND ADJUSTABLE SUPPORT VERSUS THE PLASTER JACKET.<sup>1</sup>

BY E. P. BANNING, M. D., of Fort Wayne, Indiana,

Late Lecturer on Diseases of the Spine in the Cleveland University of Medicine and Surgery.

SO GREAT has become the prevalence of spinal irritation, caries, and curvature, as to make the question of the best means of their mitigation an absorbing topic.

Of the physical means employed there is a great variety of constructions, with as great variety in degrees of merit; and as fair representations I select two (Figs. 1 and 2); Fig. 1 being the gypsum or plaster jacket, which some twenty-five years ago suddenly sprang into great popularity, and Fig. 2 is the spinal prop.

Now, I propose to impartially analyze the *modus operandi* of these respective plans, in the light of physiological law and of natural philosophy, with a view to settling the question in the minds of all unprejudiced medical men, as to which of them affords the greatest advantages and fewest disadvantages, both as relates to the temporary and immediate, and the ultimate and permanent interest of the subject.

We will suppose the subject to be something like Figs. 1, 3 or 4; the bodies of some of the vertebræ are softened; their intervening cartilages are seriously compressed, widened and thinned; the face of the spine is shortened, and its dorsum correspondingly elongated; the spinous ligaments and dorsal muscles, of consequence, are put upon a corresponding strain, and the superincumbent weight of the superior trunk by an acquired leverage is coerced to increase these abnormal conditions, and all of these conjointly must tend to progressive irritation, inflammation, softening and absorption of cartilage and bone; and also to a painful strain on the spinous ligaments, and an attenuation and exhaustion of the spinal muscles. It must also tend to compress the *primivæ*, and depress the diaphragm, impede free respiration and depress all the pelvic organs; also to impede the force of the sanguineous and nervous circulations in the inferior extremities. Add to all this, also, the fact that there is probably a constitutional cachexia or dissolving diathesis, and, further, that the nervous system greatly preponderates over the osseous and muscular, and we are forced to admit that there is much against the patient.

Now, in order first to comfort, and secondly to save the patient, several things (apart from requisite constitutional treatment) are imperatively demanded:

*First.*—Crushing superincumbent weight must be removed from the softening points of the spine, compressed cartilages, exhausted spinal ligaments and spinal muscles.

*Second.*—There must be some actual lifting and pushing force brought to bear upon the depressed abdominal viscera, and the settling upper trunk, so as to assist the inadequate abdominal and spinal muscles in lengthening the shortened face, and shortening the elongated dorsum of the spine.

<sup>1</sup> Read before the Cleveland Academy of Medicine.



*Third.*—There must be no depressing influence left upon the abdominal and pelvic viscera, or upon the circulating communications of the extremities; and no compression of the first digestive organs, nor any restriction on the freest movements of the ribs, lungs or heart.

*Fourth.*—And whatever we may do, nothing must compromise or



FIG. 1.

FIG. 1. Antero-Posterior or Angular Curvatures.



FIG. 2.

FIG. 2. THE PLASTER JACKET APPLIED.—Hugging and squeezing the patient into some *little* straightness by a "cheese hoop" process around the middle of the trunk over those vital organs which demand the freest action in the performance of their vital functions. Limiting respiration, favoring pulmonary congestion, deranging digestion, inducing urinary irritation, constipation, piles, rupture, numbness and weakness of the inferior extremities; and, in the female, severe uterine dislocation.

jeopardize the largest strength and activity of the spinal, abdominal or pectoral muscles.

Each of these points are of cardinal physiological importance, more especially as relates to the permanent re-establishment of the patient; and none of them may in anywise be disregarded for a little mere temporary

advantage. With all these points in mind, we will proceed to give the patient what support and erection we can by the application of the plaster jacket.

Here it is on a subject. We see it to be a skin-fitting, stiff, unyielding, and very heavy prison-house, and that it fits with such tightness and uniformity everywhere that the patient can stand, and is really straighter; settle down he cannot, for he is literally hugged and squeezed into some straightness. Seeing this, the parents are in a transport of delight and expectation.

Now, were there no other considerations than that of straightening the spine to be looked after, we might always depend on an indefinite improvement by this process aggressively managed. (This refers to the posterior curvature only, for in lateral curvature, circular support can neither straighten or arrest.) But how does this circular jacket accomplish all the above named indications? Certainly not by the slightest direct vertical support, or elevating action on the depressed abdominal organs, or settling upper trunk; nor by any actual supporting, expanding or spring action, but, on the contrary, by a mere circular, horizontal and squeezing action; and this, too, around the middle of the trunk, over those vital organs which demand the freest action in the performance of their indispensable functions.

A figure of green putty can, by the same means, be made to stand, and if held so till it dries, may be made permanently erect; but the living body, which is erect mainly through a well-balanced antagonism of the trunkal muscles, cannot be dried into erectness and strength.

A pillow insufficiently supplied with feathers cannot stand erect, yet a firm bandage around it may stiffen it into position; again, if the feathers are crowded to one part of the pillow-case, that part of the case is strong of itself from internal expansion, now that its contents are its bracing out support. Just so it is with the body, where a strong condition of the trunkal muscles compel the viscera to brace out, support and give it rotundity, just as a plump body gives support to a suit of well-fitting garments, or as filling a bag with apples will give it rotundity and erectness.

But let us scrutinize the internal working of this mere squeezing or "cheese-hoop" process. First, the stomach, liver and spleen are compressed, which will tend to derange the process of digestion; the bowels are also more or less depressed, which will tend to induce urinary irritation, constipation, piles, rupture, and uterine obliquities and displacements from bowel pressure; and this pressure is also liable to be extended to an obstruction of the nervous and sanguineous circulations, inducing numbness and weakness of the inferior extremities; the action of all the pectoral muscles and of the lungs is seriously impeded, so that respiration (what little there is) has to be performed mainly by the abdomen; whilst in the case of a scrofulous and consumptive patient, the lungs are in danger from congestion and lack of necessary motion.<sup>1</sup>

In fact, all that has been justly said and written against the evils of corset wearing, applies with ten-fold force to the action of the plaster jacket.

<sup>1</sup> NOTE.—Dr. Nicholas Grattan in a letter to the *Lancet*, regarding the application of the jacket, says: "It should be sawed and cut through a quarter of an inch at each side of the median line and the middle strip of half an inch wide removed. I have almost always found on cutting a jacket that it has become too large, owing to the patient having diminished in size." The italics are mine. Comment is needless.



Suppose, that by reason of a strong and unsusceptible constitution, these visceral effects are sometimes averted; still, with so small an opportunity for the restoration of the spinal, pectoral and abdominal muscles by inherent effort, how is the patient to recover his wonted strength? For, in real truth, I have asked the above questions with emphasis, in view of the fact that my earlier and later efforts to mitigate uterine, spinal, and other weakness by artificial support were (and still are) met by the very grave and reverend objection, or truism, "that if you support a part that should

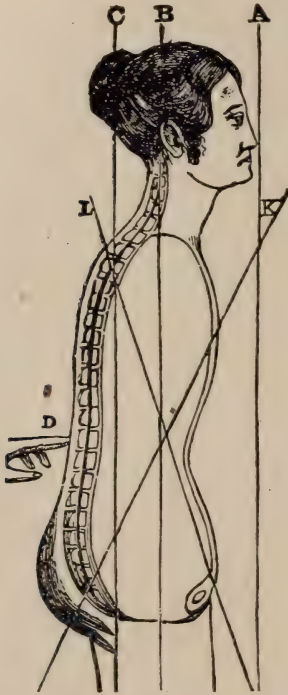


FIG. 3.

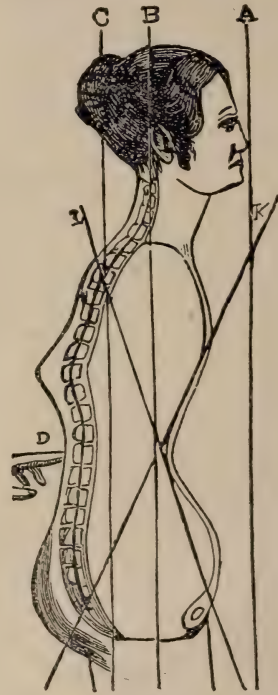


FIG. 4.

FIG. 3. SIMPLE DROOPING.—Showing the dorso-lumbar curve, retreating from the body's center of gravity (junction of lines K, L, and B), shortening the face of the spine, straining the spinous ligaments and dorsal muscles; involving a settling of the superior and abdominal viscera upon the uterus, bladder, rectum, nerves, arteries and veins in the pelvic cavity. The author's "Abdominal and Spinal Shoulder Brace" is immediately and pleasantly corrective of this disability.

FIG. 4. DEFORMITY COMMENCED.—Illustrating the natural progress (where there is a dissolving diathesis). Now there is not only an inflammation, softening and absorption of cartilage (as in Fig. 3), but the osseous tissue is commencing to soften. Caries will soon be under full headway. This condition is fully met by the author's Spinal Prop. (See Fig. 10.)

support itself, it becomes weaker and you will always have to support it;" and yet here the cure is attempted by a process which literally paralyzes muscular effort, and is a direct infringement upon the most vital functions. Notwithstanding this, I am convinced that force enough will straighten almost any spine (or crowbar, even); but by this method how are you to keep it straight and give permanent spinal and muscular vigor to the body? To me it appears that reason should lead any one to these conclusions; but they have been forced upon me by the observance of facts in the premises.

These criticisms may be met by the citation of cases of success in curvature and caries, and of complete restoration to muscular vigor in the

case of fractures, etc. To this I reply—first, that in fractures there is no vital function involved, or is there any danger to the muscles from their temporary confinement. Next, that the question does not stand as to what can be done, or borne by a few otherwise rugged patients, under an emergency, but rather is there not a more excellent way, which is far more effective, and at the same time avoids the specified permanent injuries to health?

We will now in turn consider the construction and working of the revolving spinal prop. (See figures 2 and 6.) This appliance seems to consist:

*First.*—Of a basic framework (or *terra firma*), which fits so evenly just inside and above the edges of the innominati as to make it immovable, and enable it to bear any amount of weight complacently. This also has an undulating and supporting abdominal plate attached, which exerts a strong upward action.

*Second.*—This *terra firma* is surmounted by soft crutches, which are held under the axilla by joined side-posts, which are attached to the frame as a base.

*Third.*—Next is a long spinal lever, with revolving plates on a hollow square, which is attached at top and bottom to the shoulder crutches and base. Thus we see it is a supplement to the pelvis, spine and chest; and also to the abdominal, spinal, pectoral and scapular muscles.

We will now place this appliance (its weight being less than one-fourth that of the jacket) upon the subject. (See figure 6.)

*First.*—We see the pelvic aluminum framework sitting comfortably inside and above the unyielding pelvis, and ready to bear any desired amount of superincumbent weight.

*Second.*—We see that by the lifting and undulating action of the abdominal plate, at the lowest hypogastrium, the depressed viscera are all elevated from the pelvic organs, and the arteries, veins, and nerves of the extremities; also, that the viscera are compelled to ascend to their normal height to support the upper viscera, and expand the trunk, at the now contracted region of the epigastrium.

*Third.*—We see that the jointed side-posts resting on the arches of the base are forcing the soft crutches to support and lift the superior trunk (at discretion), from off the cartilages, softening vertebræ and digestive organs, and thus tending to straighten the settling spine.

*Fourth.*—We see the spinal lever and its revolving plates on the hollow square, gently and yet forcibly bracing forward the retreating curvature towards its proper spinal axis, and compelling the shoulder caps, which are its antipode point, to correspondingly draw back the advancing shoulders. Thus, by the simultaneous and conjoint lifting action of the lower part, upon the abdomen, of the crutches under the axilla, and the bracing forward and drawing back action of the revolving plates and the shoulder caps, all of the trunkal muscles (and bones as well) are supplemented; that the whole trunk, without and within, is lengthened and expanded; that the face of the spine is being steadily lengthened and its dorsum shortened, and that the dissolving bones and cartilages are relieved of a disorganizing pressure; that the pelvic organs and the circulations of the extremities are relieved from any depressing force; the viscera also are re-



stored *in situ* to freedom, and the stomach, liver and spleen to the warming and stimulating support of the bowels; that the inverted diaphragm is again concavo-convexed, that the heart is properly supported, and the freest play given to all the organs of respiration.

Furthermore, a mere superficial glance will suggest that there is not one backward, inward, contracting or depressing action; nor the compression of one vessel, viscus, or muscle; but that, on the contrary, the spine and abdomen are shoved outward and forward just as when a man thinks enough of himself to bring those muscles into requisition in health. Indeed, it seems to act so in accord and concord with the idea of the Maker in setting



FIG. 5.



FIG. 6.

FIGS. 5 AND 6. Photograph of case of fully developed antero-posterior curvature (Pott's disease of the spine). Before and after the application of the perfected Banning Revolving Spinal Prop.

In diagrams 3 and 4 there is shown the philosophy of the commencement of this form of curvature. In diagram 6, its natural advance is indicated. Here in this photograph we see the result of a failure to push forward the retreating axis of the body. On this case (as in most all others that have arrived at such condition) there was lavished all the available treatments of exercise, massage, tonics, jackets and surgical appliances, except such mechanical forces as would, by pushing forward the retreating dorsal lumbar curve, restore the upper trunk to its proper relation to gravity, and place the weight of the upper body upon the center instead of anterior portions of the bodies of the vertebra.

up and running the body, that it only rests the discouraged parts, and so helps them as to encourage and inspire them to resume their own work; hence it is that, unlike too many artificial supports, which act by mere force, outside of principle, their use may always be ultimately discontinued, for they have not only done their own work, but have set the weakened parts to work also.

Thus, gentlemen, the two diverse appliances and their principles stand side by side. Without a doubt, under the wonderfully accommodating powers of the body, curative or mitigating results may occasionally be wrought by both of them. But, as before said, the question stands:—not as to

what has been or can be done in instances, in spite of principle, but rather which is most in accord with and in imitation of the combined forces of the body, and accomplishes its object with the least contravention of physiological law.

Out of a mass of practical tests I will now cite only one or two cases in point, as being fairly representative of the whole. First, of the working of the plaster jacket:

CASE. 1.—Miss J., a sprightly young lady of Elmira, New York, consulted me concerning a decided curvature, accompanied with much general weakness. Her desire for an improved figure was intense, and hence she had worn the plaster jacket for six weeks, under a great sense of oppression, burden and annoyance. Her respiration suffered much, and what little there was was mainly abdominal, and her abdomen was protruded, and unduly enlarged at the hypogastrium, from the influence of the jacket on the ribs and bowels. The symptoms of pelvic weakness and displacements were emphatic, and her limbs were weak and cold.

Her mother felt sure that her daughter was rapidly sinking under the process. I was forced to counsel the removal of that kind of action and suggest the application of support with no countervailing physiological influence. I regret that the attendant did not accept the advice given, for within the year my worst fears were realized—she was dead.

CASE 2.—A child, four years and a half old, and the only daughter of a professional friend, had a posterior curvature of the lower dorsal vertebræ. She was a child of remarkable intellectual and personal attractiveness, with a great preponderance of the nervous over the osseous and muscular powers. When the apparent lesion amounted to a “mere knuckle” she was taken the rounds of the celebrities of New York in turn, but none of the steel appliances could be borne on account of their weight, stiffness and unphilosophical construction, and after full trial they were abandoned.

Meantime, the curvature increased in prominence, involving two more vertebræ, and spinal and general weakness steadily increased. At length the jacket was applied by the one above all others most skillful in its use—Dr. Lewis Sayre. This she bore better than she did the others. So far as the power to stand and move about was concerned, there was some improvement at first. The first jacket was worn one week, and the second one seven weeks; but during the last seven weeks the curvature involved still one more vertebræ, the back was far weaker and the child more irritable than when the jacket was first applied. The whole system seemed to be struggling under a burden of oppression, and large dark spots under the eyes gave signs of much prostration. The mother had no rest from the constant attention demanded. “Take me, hold me, and love me!” was the constant cry. Her sleep was uneasy and could only be taken when “stretched out upon her back like one in her coffin;” she could not lie on her side, and the skin and ribs were sore from the pressure of the jacket. In short, the doctor said “the whole system seemed to be sinking under the unequal struggle, although no signs of real disease were apparent.”

At this juncture I took charge of the case which, at the start, was the most irritable, jaded and crotchety case I ever approached. I removed the jacket and applied a prop, like figure 2. Although there was a terrible scene with the child during its application, who screamed, “Another doc-



tor! Oh no! Oh no! Take him away! Take him away!" the immediate relief to the spine and the nervous system was such that within the first hour she capered about the rooms in high glee, and, on my leaving, put up her happy face for a kiss, unsolicited, notwithstanding I had previously failed to secure that favor.

It is now but a short time since the change in appliances was made, and yet her form is erect and she is as playful and cheerful as a lark. The doctor says: "She now cuddles down on her side and sleeps like a kitten all night, and awakens bright and good-natured in the morning." Of the child's own estimate of the difference between the jacket and the prop, the reader may judge by the fact that, for purposes of family government, the simple threat to take away the prop and return the jacket immediately brings her to terms. But the subjoined letter from the grateful father clinches the point:

"MY DEAR DR. HELMUTH:

"This will be handed you by Dr. E. P. Banning, who has lately been treating our little daughter, in whom you showed a kind interest, and I have the extreme and grateful pleasure to say that his compound vertical and bracing spinal prop, after the failure of the plaster jacket and other appliances, has suddenly wrought wonders. She has now been under Dr. Banning's care but a short time, and yet, from being unable to rest at night, or to walk or stand, more than a moment (and that with distress), she is now gay as a lark, rests soundly, plays freely, and, what is more, her curvature with unequal hips is nearly gone."

CASE 3.—Willie G——, age sixteen. When seven years of age he fell from a step-ladder and at the time there seemed to be no specific injury. A year later his mother noticed prominence of the 9th, 10th and 11th dorsal spines. A diagnosis was made of incipient Pott's disease, and a plaster jacket was applied. On its being removed, some three months afterwards, it was found that still more vertebræ were involved and a decided antero-posterior curvature was apparent. Again the jacket was applied, a large scrotal hernia was produced and the jacket was again removed, when it was found that not only was the curvature greater, the chest walls contracted, the abdomen enlarged, but there was such complete relaxation of the trunkal muscles that the patient could not sit up without his hands resting upon something so as to support the superior trunk. After a successful operation for the radical cure of hernia, the patient was taken to an institute at Indianapolis, where massage, electricity and exercise were used, together with an appliance which embraced the limbs and trunk, but which did not lift or support the abdominal weight, expand the chest or transfer pressure from the anterior portions of the bodies of the vertebræ. Despite an unblemished family history, and up to this time there being no seeming constitutional disturbance, a large abscess formed in the sacro-iliac region, and the patient returned home, where his physician, noting his condition, ordered the appliances removed, the recumbent posture and constitutional treatment. After some three years the caries ceased and the general health was very greatly improved, but whenever the patient assumed the upright posture for any period of

time, pus formations would be evinced, and therefore the plaster jacket was again applied.

Nine years from the date of his injury and eight years from the time of his first receiving treatment he was brought to me. I advised the removal of the jacket and the application of such support as would elevate the abdominal viscera from off the sacral nerves, bladder, rectum and inguinal openings (closing the latter by oblique pressure), and which at the same time would restore the lost trunkal bearings by balancing the superior trunk upon its true spinal axis.

*Result.*—My suggestions were carried out, the appliance adjusted. First day patient sat up several hours, his only complaint being that his legs and feet burned "as though they were waking up from being asleep;" third day he sat up almost all day. He rapidly gained in strength and on the tenth day from the time I first saw him, I dismissed him to his distant home with a fair prospect of recovery.

His physician reports: "It is now some four months since Willie G—— returned here; he walks without a cane, all evidences of paraplegia have disappeared, ankylosis seems to have taken place in the involved vertebræ. Though somewhat deformed he bids fair to be an active and useful young man."

These comparisons might be extended indefinitely, but as my object has been more to settle the comparative than the declarative merits of these two principles and plans, I forbear further citations.

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**Treatment of Chronic Nephritis.**—Mineral waters containing small quantities of salts are useful unless there is considerable polyuria, in which case the amount of fluid should be somewhat restricted. A moderate mixed diet is better than an absolutely liquid diet. As each individual has his own peculiar needs in the amount of food necessary, it is important to determine by test meals what this is. The diet which is so consumed as to take no albumen from the tissues is that which will give the maximum repose to the kidneys. This is to be determined by accurate comparison between the food ingested and the ejecta. Cold baths are prohibited, but the skin may be methodically hardened by moist friction on leaving the bed. As far as drugs are concerned, in addition to the usual remedies, the author speaks favorably of lactate of strontium (six grains per diem) as tending to diminish the albuminuria.—CARACCILO (*Gl'incurabili*, f. 9 and 10, *Ann. xiv.*).



## TREATMENT OF LITHEMIA.

BY FRANK M. FLOYD, M. D., of St. Louis, Missouri.

THE old saying that "there's nothing new under the sun" comes in singularly well in regard to medical cases; yet the recountal of cases that at first sight seem ordinary, oftentimes instructs and guides us under similar conditions. The cases that I wish to narrate come under this heading. It is to be hoped they will prove interesting and instructive.

The first case, Chas. R., came to me last October, presenting the following history: Age, twenty-nine years; single; height, five feet ten inches; weight, two hundred pounds. He had had a fair complexion, but at the time he appeared before me he was sallow. He was a book-keeper by occupation. He complained of "lost manhood." His was the usual story of having been bled mercilessly by quacks and charlatans. In conversation he appeared highly nervous and excitable, with shaking hands and quavering voice; said he had been almost without sexual desire for two years past. He was utterly incapable of obtaining an erection on most occasions. He had chronic constipation, frequent micturition, in small amounts and with burning sensation.

He affirmed that he had never had gonorrhea. He stated that he usually awoke with a headache, and on several occasions had vomited his breakfast. He said he thought he had heart trouble because he had a dull, heavy pain over the region supposed by him to be the heart, but really in the epigastric area. He even stated that his heart stopped beating (?) at nights, and that he slept but little as a result. His expression was apathetic and he had yellowish discoloration of the conjunctivæ. His tongue was heavily coated and his breath offensive. He spoke disconnectedly; seemed depressed. His penis and testicles were well developed; there was a small varicocele. Urinary analysis showed urine of dark red color, strongly acid, specific gravity 1026. Had an abundant red precipitate and large quantity of uric acid crystals.

A diagnosis of lithemia was made from the urinary examination. I could not believe that the lithemia was responsible for the extensive train of nervous symptoms in this case, but with a view of attacking the lithemic condition directly, I prescribed thialion, a teaspoonful in a half-glass of hot water on arising and retiring, for three days; then the same dose to be taken only in the morning for a week thereafter. He reported at the end of ten days; he complained then of being troubled with a "running off of the bowels" instead of being constipated, as was the case before. He had to go to stool twice and sometimes three times in twenty-four hours. At the same time he passed large quantities of urine, which he believed to be weakening to his sexual apparatus.

While dissatisfied with the treatment, he admitted that he was relieved of the nausea and headache, and that he no longer felt burning on urination. Examination of six ounces of urine showed it to be slightly acid, specific gravity 1022, with some uric acid crystals present. His skin began to clear up, and he was relieved of his "heart trouble," as he

no longer mentioned it. He was directed to continue treatment as before, taking the medicine every other day.

I saw him at the end of two weeks, and was surprised at his appearance. His skin was clear, he had lost about twenty pounds in weight, cheeks were rosy, and he said that his headache, constipation and nausea no longer troubled him. Examination of the urine showed it to be slightly acid, specific gravity 1018, and contained only a trace of uric acid.

The most marked change, however, was in his nervous system. His appearance, demeanor and conversation were entirely changed. He would not admit that he was cured of his "lost manhood," but agreed with me that he was on the high road to recovery. He was advised to take the remedy for a month, twice weekly, and I also prescribed a stimulant to be taken occasionally. He returned in six weeks, looking well, and remarked to me that he had never felt better in his life, and that his sexual capabilities were all that he desired. This history forces me to the conclusion that his whole trouble was due primarily to his lithemia.

About the time of his discharge I was consulted by Mrs. M., married woman; age, thirty-nine years; mother of five children. She stated that she was suffering from change of life and wanted relief. She stated that for the past eighteen months menstruation had been scanty and irregular; that she had gone over a period of three months without menstruating, and that her menstrual flow had been always regular before that time. She complained of hot flushes, shortness of breath, severe headaches, pains in back and shoulders, great restlessness at night, constipation, and a continual feeling that something dreadful was going to happen.

After an examination I concluded that her diagnosis of change of life was correct. Examination of her urine showed it to be quite heavy, and that it contained an abundance of uric acid crystals. She was put on the same treatment as the first case narrated. In two months she was relieved of all unpleasant symptoms, was menstruating regularly, and at the end of the third month the flow was as copious as it had even been.

I have since had other similar cases, and in almost every instance relief of the lithemic condition was followed by a disappearance of the nervous symptoms. There is ample authority for the statement that excess of uric acid in the system causes neuroses of various clinical aspects. These cases are comparatively frequent, and attention is directed to this condition.

612 Union Trust Building.

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Fowler reports an exceedingly favorable experience in the use of ethylic bromide for anesthesia in upward of one hundred cases, this including, with but three exceptions, all the cases operated on in his hospital services since he began its use (*N. Y. Med. Jour.*). From one to two drachms of ethylic bromide are placed on the inhaler, and in from thirty to forty-five seconds, according to the freedom with which the patient breathes, the administration of sulphuric ether is begun, without changing the inhaler, and proceeded with as in ordinary ether anesthetization.



## LONDON CORRESPONDENCE.

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At a social meeting of the ambulance classes, in connection with the Knowl Bank Board Evening School, Golcar, near Huddersfield, Mr. Alfred Webster, L. R. C. P., M. R. C. S., was the recipient of two gifts from the members of the classes, in recognition of his gratuitous services. One of the presents was a gold-mounted malacca walking-stick, bearing a suitable inscription, and the other was a phonendoscope.

**Dr. Clegg.**—On Easter Monday there passed away one of the oldest medical coroners in England. For nearly forty years Mr. Walter Clegg, M. R. C. S., England, L. S. A., was Her Majesty's coroner for Boston, in Lincolnshire. The late doctor had an interesting career. He was the son of a Wesleyan minister, and from his father inherited a literary taste, for in 1854 he founded the paper called the *Boston Guardian*. During the Crimean War Dr. Clegg served his queen and his country as surgeon attached to the 2d Battalion of the Rifle Brigade, and won distinction in this office. During the period of military service Dr. Clegg's literary talent proved again serviceable, for he acted as war correspondent to the *London Illustrated News*. He was elected mayor of Boston and subsequently became health officer of the borough.

**New Parochial Infirmary.**—Following a custom now recognized as judicious, the Council of the United City and Barony Parishes of Glasgow, Scotland, have decided to build a large new infirmary apart from the work-house. Plans have been invited for the arrangement and construction of the building, and a number of architects have submitted their proposals for the consideration of the Council.

**Belfast Fever Hospital.**—The selection of a suitable site for the erection of a fever hospital in Belfast, Ireland, is still under discussion. Some days ago the Belfast corporation received a deputation from the Asylum Committee to protest against the building being erected at Purdysburn, the site originally selected. After a very lively discussion the matter was referred to the Public Health Committee for further discussion. It is quite right that the question should thus be gone over afresh, as it would seem that the original decision was made without due consideration, and without much respect for medical opinion. Indeed, as far as the latter goes, it is quite against the Purdysburn site on very sufficient grounds.

**National Hospital for Consumption.**—The report of the National Hospital for Consumption, presented at the annual meeting, shows that that institution is doing admirable work. Out of one hundred and thirteen patients discharged during the year, fourteen are classified as very much improved, twenty-six as much improved, fifteen as in the same condition, and eight as having become worse. Only one death occurred. We understand that the regulations limit a patient's stay in the hospital to

ten weeks, unless specially prolonged to sixteen weeks. This rule is doubtless due to the enormous number of candidates for admission, but we think that more lasting benefit would probably result if the hospital endeavored to treat more cases to a conclusion, even if much fewer cases, on the whole, could be so treated, as cases dismissed after considerable improvement are often liable to relapse on removal from careful supervision and return to unsanitary conditions. An enlargement of the hospital is contemplated so that its useful work may go on.

**Golf and Lunacy.**—It is nothing new to suggest the existence of an association between golf and lunacy (*The Physician and Surgeon*, May 3, 1900). Some indeed will urge that the terms are synonymous, or at least that the golfer is one species amongst several which constitute the genus "lunatic." But the most recent connection which it is claimed exists between the two is that golf is a cure for lunacy. And it is therefore proposed that every asylum should be provided with golf links. To some of our lay contemporaries this seems a very startling proposal, but to those versed in modern asylum methods there is nothing novel about it. Outdoor occupations and games are, of course, leading influences in the treatment of the insane. The only absurdity lies in the theory that golf exercises some peculiar specific power over mental disorders. We notice that one writer has thought it necessary to point out the suitability of "the implements of the game" for doing deadly execution upon keepers, caddies, and opponents. Surely, if he would only recall his editorial experiences, he would remember that many lunatics are harmless.

**A Poetical Estimate of the Treatment of Constipation.**—In a lecture on the treatment of chronic constipation, in which he advocates the more general and persevering use of simple aperients, more especially those of the saline class, Dr. Cheadle quotes from a tombstone in Cheltenham Parish Church-yard the following lines:

"Here lies I and my two daughters,  
Killed by drinking Cheltenham waters;  
If we had stuck to Epsom salts,  
We shouldn't have been lying in these here vaults."

Dr. Cheadle refuses to endorse this severe indictment of the Cheltenham waters; but he suggests that the last two lines might, with a slight alteration, serve as a suitable epitaph in certain instances. The form he suggests for the cases to which he refers is:

If I had had more Epsom salts,  
I shouldn't be lying in these here vaults.

The same doctrine had an unconscious supporter in the little girl who, in repeating some well-known lines from Pope, produced the couplet:

"A little knowledge is a dangerous thing,  
Drink deep or taste not the *aperient* spring."





**Surgical Pathology and Therapeutics.** By JOHN COLLINS WARREN, M. D., L.L. D., Professor of Surgery in Harvard University; Surgeon to the Massachusetts General Hospital. Illustrated. Second edition with an appendix containing an enumeration of the scientific aids to diagnosis, together with a series of sections on regional bacteriology. Philadelphia: W. B. Saunders, 925 Walnut street. 1900.

This work on surgical pathology is indeed a most valuable contribution to the medical literature in the English language. It is written in a masterful manner and deals with a subject which is of great interest and importance to the surgeon who wants to keep abreast of the times in his department. The impress of the scientific mind of its author can be seen in every page of the book. It takes in a wide range of subjects under the title "surgical pathology," but it can be fairly said that no part is slighted. Of most particular interest, both on account of its importance and because it is slighted so universally by most text-book writers, is the part devoted to surgical bacteriology. In these pages one can read with intelligence of the rôle played by bacteria in surgery and surgical affections; the student can be impressed with the importance of asepsis, and the surgeon can appreciate the results of its practice.

**The Treatment of Fractures.** By CHARLES LOCKE SCUDDER, M. D., Surgeon to the Massachusetts General Hospital, Out-patient Department; Assistant in Clinical and Operative Surgery in the Harvard Medical School. Assisted by Frederic J. Cotton, M. D. With five hundred and eighty-five illustrations. Philadelphia: W. B. Saunders, 925 Walnut street. 1900. Price, \$4.50, net.

The treatment of fractures has become almost a specialty of surgery, and consequently books on the subject devoted solely to a consideration of the pathology, diagnosis and treatment of fractures are demanded by those who would perfect themselves in this line. Scudder has given us a volume on this subject which is really worthy of unstinted praise. It discusses the subject in a way that convinces one that the author is thoroughly conversant with the subject in hand. It is illustrated in a lavish manner, and these illustrations, both the diagrammatic and those taken from life, serve to excellently express the subject in connection with the excellent text. Several procedures for the treatment of special fractures are original and are truly of merit. The directions for examination of fractured parts are concise and are timely. The work is a clear, scientific and withal practical exposition of the treatment of fractures, and it deserves commendatory words in its behalf.

**Suggestive Therapeutics and Hypnotism.** By HERBERT A. PARKYN, M. D., C. M., Principal and Founder of the Chicago School of Psychology, etc. Suggestion Publishing Co., Chicago, Illinois. 1900.

This work on suggestive therapeutics and hypnotism is thoroughly in harmony with the present trend of medicine towards this manner of treatment of disease. It is written by one who has had a vast and varied experience of a practical nature in this method of relieving bodily affections. His results have been surprising and demonstrate full well what a powerful agency we have within our grasp in suggestion. The book comprises what is known as a mail course of thirty-eight lessons on the uses and abuses of suggestion. A clear and comprehensive idea of the whole subject can be obtained by a perusal of the book. It deals first with theoretical data, and then illustrates by practical tests. Every physician should read this book and take advantage of its teachings, thereby acquiring new power in defeating disease. Suggestion properly applied really accomplishes a great deal, and accomplishes results which could be obtained in no other way.

**Essentials of Medical Diagnosis Arranged in the Form of Questions and Answers.** Prepared Especially for Students of Medicine. By SOLOMON SOLIS-COHEN, M. D., Professor of Therapeutics and Clinical Medicine, etc., and AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Illustrated. Second edition, revised and enlarged. Philadelphia: W. B. Saunders, 925 Walnut street. 1900. Price, \$1.00, net.

This little work will be found to be quite useful for the class for which it was written—*i. e.*, medical students. This volume is arranged in the form most suitable to the wants of the student, so that he can find what he wants without unnecessary reading. It is thoroughly up-to-date, and comprises about all that we know on the subject of medical diagnosis. The student who uses this book will surely gain a better insight into the subject than he would otherwise acquire. It is to be recommended favorably to this class.

**A Hand-book for Nurses.** By J. K. WATSON, M. D., Edinburgh, Late House Surgeon, Essex and Colchester Hospital; Assistant House Surgeon, Sheffield Royal Infirmary and Sheffield Royal Hospital. American edition. Under the supervision of A. A. STEVENS, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania, etc. Philadelphia: W. B. Saunders, 925 Walnut street. 1900. Price, \$1.50, net. L. S. Matthews & Co., St. Louis, Agents.

It is a great problem that is presented to the medical profession when the question of just how much medicine the nurse should know comes up for discussion. The nurse, as a rule, gains but little knowledge from the cumbersome medical books that are dished up to her for reading. Watson has realized that a gap exists in this place, and he has filled it up with his little Hand-book for Nurses. It deals only with subjects in medicine with which the nurse should be tolerably familiar. It does not delve too deeply



into any one line. The selections are made carefully and with a view of giving the nursing profession an intelligible insight into medicine as it concerns them. It is not a book for a student of medicine. We are satisfied that if nurses read this book they will be vastly benefited thereby.

**A Manual of the Diagnosis and Treatment of the Diseases of the Eye.** By EDWARD JACKSON, A. M., M. D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. With 178 illustrations and two colored plates. Price, \$2.50, net. Philadelphia: W. B. Saunders, 925 Walnut street. 1900. L. S. Matthews & Co., St. Louis, Agents.

Among the smaller treatises on the subject of ophthalmology, this work stands as one of the foremost. The field is covered in a terse and yet comprehensive manner. Its chapters upon refractive errors are, as we expect from such an author, thorough, up-to-date and explicit. The chapters dealing with pathological conditions give a good insight into the diagnosis of the diseases usually met with by the ophthalmologist. The same may be said of his chapter on ocular symptoms of general disease. On the whole, it may be considered a good working manual for the student.

E. C. R.

**Manuel Complet de Gynecologie Medicale et Chirurgicale.** Par A. LUTAUD, Professor libre de Gynecologie, Medecin adjoint de Saint-Lazare, Membre fondateur de la Societe Obstetricale et Gynecologique de Paris, etc. Nouvelle Edition Entierement Refondue Contenant la Technique Operatoire Complet et 607 Figures dans le Texte. Paris: A. Maloine, Editeur, 23-25, Rue de l'Ecole-de-Medicine. 1900.

This excellent work on gynecology reflects great credit on its author, Prof. A. Lutaud, of Paris. The text takes in the whole subject of diseases of women, and gives concise directions in regard to the technique of gynecological examinations and operations. The illustrations are numerous and excellently executed. The illustrations of some of the gynecological instruments more commonly used on the Continent than in this country are valuable, inasmuch as they demonstrate that each country has original ideas of its own in every line in medicine. Carefulness in preparation and sound opinions based on extended practical experience form the chief characteristics of the volume. It is to be regretted that the book has not yet been translated into English, when it would be more available to American readers. The chapters on pelvic disorders, pelvic inflammations, etc., deserve special mention for excellence.

Mr. W. B. Saunders wishes to announce the final accomplishment of a step that he has long had in mind. Feeling that the growth of the business to its present large proportions has been due, not alone to his own exertions, but quite as much to the efficient co-operation of a number of his employes, he has decided to give recognition to such service by associating with himself in business, under the firm name of W. B. Saunders & Company, Mr. F. L. Hopkins, manager of the subscription department, and Mr. T. F. Dagney, manager of the publication department. These gentlemen have been connected with the establish-

ment almost from its inception, and to their capable management of their respective departments Mr. Saunders attributes much of the success that has attended his efforts.

Mr. Saunders believes that this action will strengthen the position of the house in the eyes of the medical profession, as it will secure a permanence of organization that will ensure the perpetuation of the business. Besides this, it will obviate the disadvantages incident to a large business that rests entirely upon the shoulders of one person, by permanently attaching to the house those whose ability and experience have contributed in bringing the business to its present state of prosperity.

The subscription and publication departments will be conducted as heretofore. The trade book department will be under the management of Mr. W. D. Watson, whose connection with the house has extended over the past eight years, and who has demonstrated his ability to manage that department with efficiency and success.

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**Whooping-Cough.**—A child suffering from whooping-cough should be frequently changed from one room to another, and the best possible ventilation secured. Every case of whooping-cough may be relieved, either by modifying the severity, or diminishing the number of the paroxysms; the duration of disease is probably not shortened by treatment; remedies sedative in character, with fresh air, give the best results; if the remedy is to be of service, its beneficial results may be noticed within twenty-four to forty-eight hours; the best results are obtained when antipyrin and the bromides are commenced at the height of the paroxysmal stage and then pushed vigorously; being sedative in character, the good effects may be lost in a prolonged case; and children may have whooping-cough and never whoop.—*Dr. Chas. G. Kerley before the New York Academy of Medicine.*

**The Choice of Nutritive Material for the Culture Demonstration of the Smaller Streptococcus Crowd.**—Menge and Kronig, after an extended discussion of the relative merits of agar and bouillon as culture media, reach the conclusion that fluid broth has no advantages over solid agar (*Centr. f. Gynec.*). Their experiments were conducted chiefly with reference to the culture of the streptococcus pyogenes of puerperal fever, and the question whether this infection could be derived from the saprophytes existing in the vaginal secretion of the pregnant woman. While they now admit the existence of these saprophytes, their experiments have confirmed their opinion that it is impossible for the puerperal infection through the streptococcus pyogenes of puerperal fever to be derived from the antepartum saprophytes of the vaginal secretion. They believe that the assertion of Bumm and Hoffmeier as to the unity of all streptococci is not sustained by these facts.



## MEDICAL NOTES.

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The hot bath is quite an aid in the diagnosis of abdominal troubles. It causes a prompt relaxation of the abdominal walls, thereby permitting the examiner to locate conditions in the abdominal cavity with great ease and certainty. The method possesses advantages over the production of general anesthesia which are quite evident and need no further elucidation.

**A Case of Neuro-Fibromatosis.**—Sneguerey presented to the Ophthalmological Society of Moscow a woman of twenty-four years of age who had a tumor originating in the skin of the forehead, descending on the right side of the face so as to cover the eye completely. The frontal part appeared to constitute the base of the tumor, and was of firm consistence, whilst the facial part was quite soft and movable. The skin over the tumor was of normal coloration, though slightly thickened. A similar tumor had its seat near the arm-pit. The tumors of the forehead and face having been removed, the histological examination showed the case to be one of neuro-fibroma.

An effort is being made in the English Parliament to annul the rules governing the employment of factory hands who deal with the different kinds of phosphorus in lucifer match factories.

It is recommended to paint a solution of carbolic acid on the posterior wall of the pharynx in the course of whooping-cough, as it is claimed that it modifies the course of the disease somewhat. The solution is as follows:

Rx Crystalline carbolic acid.....	20 grains
Pure glycerin.....	2½ drams
Syrup tolu.....	2 drams

According to the *British Medical Journal*, the erection of a hospital for venereal diseases in Jerusalem is said to be in contemplation. The hospital will be situated in Ghaza, and will provide accommodation for ninety patients.

**Vaccination**, it is announced in the *Archives Orientales de Medicine et de Chirurgie*, has been made compulsory in Constantinople. Parents neglecting to have their children vaccinated are punishable by a fine of one hundred and fifty piasters.

**Loss of hair** is more frequent in men than in women. In three hundred cases collected by Dr. Geo. T. Jackson, of New York, it was proved that intellectual occupations and worry and strain were predisposing factors, and that sixty-six per cent. of the cases begin after thirty years of age. In women general thinning of the hair is the most common form, while the receding from the forehead is uncommon.

**The Turin Savings Bank** is promoting the establishment of a sanatorium for the tuberculous poor belonging to the Commune and Province of Turin. It has assigned 150,000 lire (\$30,000) towards the erection of such a sanatorium, which is intended to build when funds sufficient to maintain forty beds are available.

**Large doses of tuberculin** have a disintegrating effect on the lung area involved, and so small doses are to be recommended.

**Doses of petroleum oil** are being lauded in the treatment of pulmonary tuberculosis, as they greatly influence for the better. It also has the effect of rendering the intestine unfavorable to the life of micro-organisms by starving and suffocating them, through cutting off the avenues through which they have their nourishment. The oil has beneficial effects in chronic bronchitis and in phthisis, without any tax on digestion, appetite or food assimilation. It is valuable as a solvent for many drugs, and as a means of conveying intestinal germicides.

**Othetoma** is one of the unusual symptoms of syphilis. Othetoma is a rather suddenly appearing effusion of blood between the cartilage of the auricle and the perichondrium, separating this latter from the former.

**Stelwagon**, of Philadelphia, reports two interesting cases of persistent exfoliation of the lips. It was considered by the reporter that the disease, as seen in these two cases, is allied eczema seborrheicum.

**Diphtherial stomatitis** is produced by constantly wiping the lips with handkerchiefs used by patients suffering with faucial diphtheria.

**Disinfection After Measles.**—In many cities of America the boards of health lay so little stress on requiring physicians to report cases of measles that this duty of the medical attendant is often entirely neglected. In speaking on this subject before the Académie de Médecine, M. Valin said that the infectious disease which at this time has the greatest mortality in Paris is not diphtheria nor typhoid fever, but measles. While other infectious diseases are decreasing in both frequency and virulence from year to year, measles is on the increase. This, he attributes to the fact that measles is not there included among the infectious diseases which must be reported to the health authorities, and after which disinfection is required. Many physicians hold that disinfection is quite useless after measles. M. Valin says that even if disinfection is useless, a fact which has not been established, it will at least serve to kill germs, such as the staphylococcus, pneumococcus, etc., the association of which with the microbe of measles causes such fatal complications. It also serves to keep the public from getting the idea that no precautions need to be taken against this disease.

—*Pediatrics.*



## NEW REMEDIES.

**The Hot Springs of St. Louis.**—It is our desire to make the medical fraternity cognizant of the fact that we have here in our midst a mineral water that possesses medicinal properties comparable to those possessed by the waters of such famous places as Carlsbad, Saratoga, Hot Springs of Arkansas, and other equally well-known places. This water is that known as the "Belcher Water." It comes from a spring located at O'Fallon and Main streets, of this city. It was discovered by accident, as many good things are discovered, and in this way: Some forty-seven years ago a Mr. Belcher, desirous to procure water for his factory, located on O'Fallon street, ordered an artesian well to be bored. This was done. Instead of striking ordinary water, the product now so well known as Belcher water was found. It is a water of definite chemical construction, analytical examination showing that it contains magnesium, ferrous and calcium carbonate, potassium and sodium chloride. It also contains 0.002 cubic inches of sulphuretted hydrogen gas to the pint.

For many years this valuable product was allowed to run to waste, no effort being made to use it for regular medicinal or balneatory purposes. Only a few years ago it was decided to erect a bath-house over the spring and give the citizens of St. Louis full advantage of this magnificent means of combating disease.

A fully equipped balneal establishment was set up, and from the very day of opening it has afforded relief to many afflicted ones. The system of bathing is similar to that used at Hot Springs, Arkansas. The bather is put into a tub of Belcher water at a temperature ranging from 98 degrees to 102 degrees Fahrenheit. Massage treatment is given by a skilled attendant. He is then transferred to the vapor room, where he remains for a few minutes only; he is then placed in the hot room at a temperature of 120 degrees and remains there fifteen minutes. If he desires to take the Turkish bath he is then given the necessary rubbing, after which a shower is given and he completes the *seance* by retiring to the cooling room.

The manner of administration of the bath is admirable. For the relief of troubles like rheumatism of the chronic articular variety, for general treatment of disorders of the gastro-intestinal tube, and for skin affections this bathing is highly efficient. Aside from the hygienic features of the bath, the chemical construction of the water is sufficient to account for the remarkable results achieved by taking a systematic course of baths at this resort. The water is freely quaffed by the bathers and acts as a mild laxative, stimulating digestion and promoting metabolic changes so necessary for a complete elimination of the noxious products met with in the affections detailed above.

Especial care is taken by the management of the Belcher bathing establishment to follow physicians' directions in giving a course of medicinal baths. The most skilled attendants look after the wants of patrons. Many cures have already been effected by these baths, and by drinking the Belcher water. The existence of a place of this kind in our midst should be fully appreciated by the local profession, and by the laity likewise. The baths are equal in point of excellence to those of the famous Hot Springs of Arkansas, and when one thinks of the time and money saved by taking the treatment at home, practically speaking; it needs no further argumentation to convince the most disinterested person that the

Belcher bath is a boon to suffering humanity of St. Louis and the neighborhood.

Provision is made for the treatment of syphilitics in a special department of the establishment, and mercurial inunctions are given by a trained attendant.

There is also provision made for the administration of baths to ladies. Physicians who send their lady patients to this institution for a course of baths can feel sure that their directions will be faithfully carried out, and their patients will receive all the benefits accruing from the excellent baths and the drinking water. In this connection it might be well to suggest to the profession that great good has been done in the direction of relieving chronic constipation of women by the drinking of the Belcher water combined with a course of baths. This alone means a great deal to the practicing physician. In short, we feel justified in heartily endorsing the Belcher water, the Belcher baths, and the two together, believing that a great deal more can be done in the direction of mitigating disease by the administration of these baths than is being accomplished by medicinal treatment alone.

**Skin Hygiene.**—It is surprising to observe how little the average person knows about the relation of wearing apparel to the preservation of health. Traditional knowledge—the most stupid of any, as a rule—governs most of us entirely in our choice of clothing.

It is entirely within the range of reason for one to presuppose for a moment that the *sine qua non* of good health and its preservation is the wearing of good underclothing. It is the clothing next the skin which plays a more important role in the health of the individual than the clothing next the "world." One of the most palpable absurdities now rife with most of the community is their habit of wearing woolen underclothing because they think that wool offers the best protection to them against the elements. A moment's consideration of this habit will quickly convince the most obtuse that it is erroneous. As we know, the skin is one of the most important bodily excretories that we have. It is through the skin that a major portion of the end products of metabolism and combustion are excreted from the body. The evidence of this lies first in the anatomical markings of the skin, and secondly in the physiological and chemical findings which have been made with reference to the skin excretions. These excretions are poured out on the surface of the skin. If man were in his primeval state then all would be well, and there would be no further need for discussion of the best way to treat himself under these conditions. Fortunately or unfortunately, as the case may be, man of to-day, by reason of habits engendered in the past and handed down to him for ages, has come to look upon clothing as a prime necessity, and so we must take that fact into consideration. The problem then before us is how to cover his skin in a rational way. These excretions lie on the skin. They must be gotten rid of. How are we to do it? Can we do it by placing a layer of a non-absorbable material next the skin, such as wool? Most emphatically not. What then must we use? We must use something which will readily absorb these excretions and thereby give the body that hygienic protection which it demands. The material which is ideal in this direction is the article known to us as the Deimel linen-mesh. This material quickly absorbs all the excretions of the skin and, besides, being penetrable,



allows the air to circulate freely over the surface of the body. In this way the wants of the body are best subserved. We all are bent on having a *mens sana in corpore sano*, and we cannot have it unless we pay the proper attention to this most essential thing of wearing the proper underclothing.

**Cholera Infantum.**—No subject is more important, especially at this period of the year, than that of infantile intestinal disorders, usually caused by the intense heat of summer, dentition, improper diet, and unsanitary surroundings. As physicians, we are called upon to combat that disease so dreaded by mothers—cholera infantum—it generally occurring in the poorer classes, where also so often such a thing as asepsis is unknown.

I wish to report to you some cases that I have been treating in which I used with great success glyco-thymoline (Kress):

Aggie McK., age fourteen months, cutting four teeth, taken suddenly sick in the night with colicky pains, vomiting and purging; pulse, 140; temperature, 104°; the stools in a few hours becoming copious, musty odor, greenish in character; the treatment at that time was mustard paste to abdomen and mild purgative. The next day I prescribed standard drugs, but the bowel trouble did not abate; she kept on in the same manner, growing weaker and becoming rapidly emaciated. On the fourth day I commenced using glyco-thymoline (Kress) with equal parts liquid bismuth, teaspoonful every two hours; it acted like a charm. After two doses could notice a change for the better, and in three days the child was convalescent.

Walter S., four months old, delicate, nervous, irritable from birth, had been suffering from cholera infantum for over a week when I was called to see him; he had wasted to a mere nothing—eyes sunken, semi-comatose, skin clammy, bowels moving every few minutes; ordered an enema of warm water with one ounce of glyco-thymoline (Kress) to pint. Administered internally:

R	Bismuth subcarbonas.....	3 j
	Spts. myristicæ.....	m xx
	Spts. vini gallici.....	3 iij
	Glyco-thymoline (Kress).....	3 ss
	Mistura creta.....	q. s. ad. 3 iij

M. Sig.—Teaspoonful every three hours.

The next morning, when I saw him, there was a slight change for the better, and the bowels were not so active, same treatment was kept up; there was a gradual recovery in three or four days, the stools were normal, and other symptoms had disappeared. I sent him to the fresh air camp, giving the mother a bottle of glyco-thymoline (Kress) with directions to use one-half teaspoonful diluted three times a day. The child is picking up nicely.

John T., two-months-old baby; typical case of cholera infantum; had small hopes of saving the little one; put him on equal parts liquid bismuth and glyco-thymoline (Kress), one-half teaspoonful doses every three hours. It controlled the vomiting, and regulated the bowels and the child made a nice recovery.

I have also used glyco-thymoline (Kress) in syphilitic sore mouth, ulcerated stomatitis and hemorrhoids, and find it a splendid palliative. The results obtained were entirely satisfactory, both to me and my patients. I shall continue to use it in my practice.

Cleveland, Ohio.

A. E. CHATFIELD, M. D.

**Iodo-Eigon.**—Iodo-Eigon, as presented to us, occurs in the form of a pale brown powder, tasteless and odorless; it contains twenty per cent. iodine. Bacteriological tests made in the various hospitals have demonstrated its high disinfecting power, the pure powder arresting growth of anthrax, staphylococcus pyogenes albus, cholera, typhoid bacilli, etc.

The investigation carried on in the hospitals above referred to would lead us to believe that this new product is superior to iodoform as a disinfectant, on account of the more rapid liberation of iodine. Applied to open wounds it combines with the secretions to form an emulsion-like dressing.

The following cases are taken from the records of the St. Louis City Hospital, where it has recently been employed:

CASE 1.—Female, aged thirty years. Laparotomy for pelvic abscess; wound dressed with bichloride solution. Two weeks later the posterior fornix was opened for the purpose of a better drainage of the abscess cavity. Iodo-eigon was injected in abscess cavity in a watery mixture (iodo-eigon being insoluble in water, the latter was merely used as a vehicle by which to carry the remedy to the desired parts). The patient complained of a burning sensation, but otherwise did not have any unfavorable symptoms. The amount of pus decreased rapidly under this treatment, the wound in the vagina was completely closed, as was also the incision made above the pubes, and the patient discharged as cured.

CASE 2.—Male. Patient came to the hospital with infected hand and forearm; all the tissues were sloughing, there was also an extensive osteomyelitis of both the radius and ulnar. His general condition was so serious that an amputation of the forearm was decided upon. This was performed about three inches below elbow-joint, and the flaps left loosely sutured. One week later the stump showed signs of cellulitis; an incision was made on the under part of the stump, and the pus cavity (which had formed) drained. Iodo-eigon used as a dressing. After several applications the pus began to diminish in amount. The tissues are looking better, but the general condition is very poor at present writing.

On several other cases iodo-eigon has been used with very promising results, but on account of the patients leaving the hospital before treatment was completed, it is not desirable to consider them in this preliminary report. June 1st.

A comparison between iodo-eigon and iodoform in the above cases shows about the same degree of efficiency, so far as checking suppurative processes is concerned. The iodo-eigon is more irritating than iodoform; the irritation, however, does not last long, and there has been no contra-indication whatever after its use as a substitute for iodoform noted in the cases in which it has been employed.

There is also no unpleasant odor from its use, as from iodoform, which fact, in private practice, is well worthy of consideration.

A more exhaustive report on this remedy will be given at a later date.



**Nutrico Food.**—This food is presented to the profession as the result of years of investigation and experimentation on the part of able dietitians, and is offered as a product answering the requirements of an infant and invalid food in the largest number of cases indicating the use of artificial nourishment.

It is a complete cereal food, containing no insoluble starches or sugars, and in analysis approximates the milk of the mother. The taste being similar to mother's milk, makes it very acceptable to children.

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**Munson**, in discussing the proper military ration for tropical duty, calls attention to the following physiological facts: in hot climates the body-temperature is slightly increased; there is loss of body weight; diminution of pulse-rate; slowing of the respiration, which is apparently produced with an increase of the respiratory capacity; diminution in the secretion of the salivary glands, and of the excretion of urine, particularly of the excretion of urea; probably increase in the secretory activity of the liver, associated with congestion; dryness of the throat and fauces; exaggeration of thirst, and impaired appetite.—*Boston Med. and Surg. Jour.*

**In concluding** his paper on the treatment of abdominal viscera through the colon, **Turck** states that massage and systemic or abdominal electrization, while not destitute of good effects, achieve but partial success (*Jour. A. M. A.*). The facts already cited as to the benefit of massage applied to the bowel's mucous membrane are peculiarly applicable to electrization, which can be applied to the mucous membrane of the bowel, as far as the colon is concerned. A large area can be reached through a cable and irrigator mentioned in the paper by the method described.

**Pagestecher** reports a case of successful removal of the gravid uterus for multiple myoma from a woman aged twenty-nine years (*Centralb. f. Gynecologie*). The case was remarkable because the woman was so young, since **Olshausen** holds that for myoma to occur in the twenties is exceptional. The tumors being partly interstitial and partly subserous and involving the entire posterior uterine wall, enucleation or excision was impossible; hence the uterus was removed, and upon enucleation was found to contain a six-weeks' fetus, and was the seat of four tumors.

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### ALCOHOLIC STIMULATION IN TYPHOID FEVER.

The question of the utility of any form of alcoholic stimulation in the course of typhoid fever is one which has been raised quite frequently in the past year or two. It seems that there is a tendency on the part of some clinicians to disregard the advantages which older workers in medicine have ascribed to the use of alcohol in any of its forms. It is quite refreshing to get an article from the pen of such a clear-headed clinician as Dr. John H. Musser, of Philadelphia, who writes in *The Therapeutic Gazette* for April 15, 1900, on "The Indications for the Use of Alcoholic Stimulants in Typhoid Fever." The doctor deals with the subject in his characteristically rational manner. At the very outset he seizes the key to the situation by saying: "It is somewhat of a paradox to say that the best indication for the use of stimulants in typhoid fever is to prevent their use—that is, prevent by proper treatment the patient falling into that state of the system which requires stimulation. Stimulants in typhoid fever are in order in the following states: toxemia, exhaustion, and in the accidents—perforation and hemorrhage. By the use of cold water in the treatment of typhoid fever we have less to do now with toxemia and exhaustion than we did formerly; so that the quantity of alcohol now used in the treatment of typhoid fever is, necessarily, much less than formerly. Where toxemia supervenes in spite of the use of cold water, we must resort to alcoholic stimulation. In states of exhaustion, it is imperative that the organism be tided over by the use of alcohol, such as champagne or whisky. Finally, it is absolutely indicated to give alcohol where we have perforation or hemorrhage. It is also well to give timely doses of alcohol



during convalescence. In that way the exhaustion is overcome and digestion is aided. The light wines are in order at this time."

This effectually disposes of the subject of the propriety of using alcohol in typhoid fever. It is a succinct outline of "alcoholic medication" in enteric fever. We *must* use alcohol under these circumstances. It is a rational remedy, and untold good is accomplished by its administration.

### THERAPEUTICS OF THE SUNBEAM.

The method of treating various forms of skin diseases, lupus, etc., by means of the rays of the sun, as advocated five years ago by Dr. Niels Finsen, of Copenhagen, is one of the most recent attempts to convert natural force into therapeutic energy. The idea of utilizing the rays of the sun as a therapeutic agent is but another illustration of the old saw that "there's nothing new under the sun." The ancient Greeks and Romans made use of the sun-bath in the treatment of various chronic complaints. The natives of the South Sea Islands and other primitive races still adhere to this method of cure in dealing with disease. The natives of the "Terre Calicute" of Mexico made use of the sun's rays as a cure for syphilis. The patient was taken down to the sea-coast and was partially covered with sand. He was exposed to the sun, drinking in the meantime infusions made from the leaves of various plants. This practice is also in use among the natives of Haiti. Modified forms of the sunbeam were employed in ancient times in the treatment of disease. John of Gaddesden treated the Prince of Wales, when he was afflicted with small-pox, by this means. Gaddesden lived in the early part of the fourteenth century, and was court physician to Edward II. He had his patient wrapped in scarlet, and everything about the bed was of the same color. In Roumania the practice of wrapping patients in red flannel when they are suffering with small-pox is still in vogue. In Japan the same treatment is carried out, and the children are given red toys to play with.

Finsen treated several cases of small-pox by this means, and secured good results as regards the "pitting." It was Finsen who first pointed out the fact that the irritation of the skin, which sometimes follows the application of the sun's rays, is not due to the heat, but is due to the so-called chemical rays of the sun.

The electric light has also been utilized in the treatment of various affections. For example, Minin gets very good results in cases of joint effusion by applying rays of light from an arc lamp. The Roentgen rays have also been used in the treatment of lupus and rodent ulcers.

These experiences show us that there is a great deal of good to be gleaned from this comparatively new therapeutic agent. It only needs further investigation and experimentation to develop it. The field and range of its usefulness is undoubtedly wide, and we can expect wonderful results to follow.

### SCARLET FEVER WITHOUT AN ERUPTION.

Attention should be called to the relative frequency of occurrence of scarlet fever without an eruption. It has come now to be a clinical fact that we often have true scarlatinal infection without a rash. That this is

overlooked quite frequently by practitioners is made manifest by the fact that many individuals who claim that they have never had scarlet fever in their infancy or childhood, when placed in contact with genuine cases of scarlet fever never contract the disease, no matter how virulent the infection may be. We meet with cases of severe angina nowadays, cases which are characteristically malignant; they are frequently accompanied by signs of acute renal inflammation, and yet no rash appears. These cases should certainly be classed as true cases of scarlatinal infection. In addition to this, we may have scarlet fever without an eruption, and yet have a desquamation of the skin. A case of this kind was reported by Irvine in the *British Medical Journal*, No. 2036, 1900. W. G. Nash also reports nine cases of this kind.

The writer recently had occasion to make cultures from the above class of cases—*i. e.*, scarlet fever without eruption—and succeeded in finding the diplococcus scarlatinæ in these cases in the throat and in the blood. It was thus definitely proved that the disease which is manifested by angina, nephritis, fever, and (later) desquamation, is really a scarlet fever infection. The virulence of the infection in these cases may be just as great as it is in cases accompanied by a classical rash.

#### CLINICAL SYMPTOMS OF PLAGUE.

In view of the fact that the symptomatology of the plague is but little known to the profession at large, it seems advisable to devote some space to a consideration of it. *The Public Health Reports*, April 20, 1900, contain an article translated from *Veröffentlichungen des Kaiserlichen Gesundheitsamtes* on this opportune subject. In all epidemics it has been found that even skilled physicians fail to recognize the disease, mistaking it for common carbuncle, infection of the lymph glands, typhus, intermittent fever, or anthrax. The warning signs of the disease may be pallor, depression, pains, headache, thirst, loss of appetite. The onset of the disease is frequently sudden, with sharp, dull or burning pains on the spot on which later glandular inflammation, or carbuncle, or the pneumonic manifestation takes place. This is followed by a sensation of cold, culminating in a severe, shaking chill, succeeded by fever. A feeling of dizziness is present in nearly all cases. This may increase to a painful roaring, with weakness; nausea and vomiting are frequent.

The picture is clear when the patient comes to the physician's hands: staring gaze, bloated, languid and expressionless face, the injected cornea, the thick, stammering speech, all give the patient the aspect of a drunken man. Respiration is weak and hurried, the arteries are relaxed. The patient becomes delirious. Upon close examination the local swelling in the glands can usually be made out, or the signs of implication of the lungs may become apparent. The disease presents itself under one of three forms: glandular, skin, or lung plague. Abdominal plague has only been verified in the case of animals. In glandular or bubonic plague we have the beginning in the form of a glandular enlargement with suppuration.

Pneumonic plague generally follows the course of an ordinary violent catarrhal or croupous pneumonia. Plague pustules or carbuncles are not frequent as compared with plague buboes. They begin like a flea bite and



gradually change their character to a blister with subsequent pustulation. A bubo may follow in the neighborhood of the pustule, the infection being carried through the inflamed lymph vessels.

### THE FACTOR OF AUTO-SUGGESTION IN SEASICKNESS.

Seasickness has ever been a most interesting problem, both to the minds of those who seek to know the cause of the disease and those who seek its cure. The attention of those who are interested in etiological questions is especially directed to this, although the therapist as well can be entertained, and perhaps helped, by applying the principles herein dictated to practical cases in hand.

It seems that seasickness is a veritable *bête noire* to ocean voyagers. The novice in matters maritime, about to take a trip across the Atlantic, does so with spirits rendered gladsome by thought of the wonderful scenes which he will see abroad, yet withal possessed of secret dread in his heart (and stomach) of the terror which confronts him in the shape of seasickness. He recalls to mind all that he has heard of this dread "*mal de mer*." He reviews with fear and trembling all the futile attempts, prophylactic and otherwise, which different observers advised to combat the disease. And what is the result? He hardly sets foot on deck before beginning to "sound" himself, and at the first intuitive suggestion of a feeling of nausea he believes that he is becoming seasick and must vomit. The consequence is that he is really in the throes of seasickness almost before the steamer has passed beyond the narrows and has put her pilot adrift preparatory to beginning the voyage proper.

This extreme picture of the factor of self-suggestion outlines, we trust, how many individuals become seasick. It is a positive fact that many persons suffering from this trouble would never become ill had they not held distorted ideas of the disease. The personal factor always plays an important role in the production of this disease, and with its elimination the number of cases of seasickness, especially among neurotics, would be greatly lessened.

### CATTLE PLAGUE.

M. Boudet, of the Pasteur Institute, who went to Pretoria three years ago for the purpose of discovering a cure for cattle plague, says that, unfortunately, no cure can be found for horse sickness, of which he has also carefully studied the symptoms. Only seven per cent., at the outside, survive the illness, and their value increases considerably, as henceforth they are safe from further contagion. M. Boudet observes that while horses and mules are attacked, donkeys escape, as well as other animals. Sheep, goats and rabbits, when inoculated with the virus, did not suffer. As horse sickness disappears during the winter, he attributes the agency of communication to the mosquito. Now that the cold season is approaching, M. Boudet says that the English will not lose so many horses, but that, on the other hand, they must themselves be on their guard against pneumonia, as there are great variations of temperature.

### BUBONIC PLAGUE IN THE PERSIAN KURDISTAN.

It is now definitely reported that the plague has broken out in Djivanro in the Persian Kurdistan. The news has been received at Constantinople, having been forwarded there by the sanitary physician at Bagdad. Djivanro is situated between the chain of mountains of Dallaho and Sallaho, 6000 feet above sea-level, on the Turko-Persian boundary line. Four tribes inhabit this district, and are enemies of each other. These tribes are: The Djivanro, living in the Djivanro; the Avraman, living north of them; the Provansir, living to the east, and the Gulamber, living in the west. These tribes are independent, and live in about fifty villages during the winter, but as soon as summer comes they leave these villages and go to the mountains, where they live in black tents, breeding cattle or cultivating rice. In Kurdistan, as well as in Mesopotamia, bubonic plague is an endemic disease, which breaks out now and then and remains within the boundaries of the province. It differs in this way from that form of the plague which occurs in India and China, where it spreads with rapidity all over the land. The inhabitants of Kurdistan, luckily, are accustomed to the disease, and know the advantages of quarantine. Therefore, at the first outbreak of the disease, all the healthy people flee to the mountains, while the sick are left in the villages, which are at once surrounded by a quarantine cordon.

It is to be hoped that the present outbreak is not one imported from India, in which case it would not be stifled so readily. The superior sanitary commission at Constantinople has decided that a sanitary cordon will be established on the Turko-Persian boundary line, and that several sanitary physicians will be forwarded to the spot, among them the sanitary physicians of Bagdad and Hanequin. It will thus be seen that our Oriental friends are alive to the necessities of the imposition of a rigid quarantine in order to corral this disease.

### THE DIAGNOSTIC VALUE OF THE DEEP REFLEXES.

D. S. Fairchild (*Jour. A. M. A.*) calls attention to the diagnostic value of the deep reflexes, and warns us to be careful about placing too much confidence in these reflexes alone. They must be taken with the whole clinical picture of the nervous malady. Account must also be taken of the wide range in the deep reflexes in normal individuals. Unless this is done, we are apt to err in our methods of diagnosis. This is, indeed, a timely subject, and too much stress cannot be laid upon it. The profession as a class must take the whole symptom complex when they are dealing with the question of diagnosis, and must not rely too much on single so-called pathognomonic symptoms. Concerning the deep reflexes we know that there is a change in them in both functional and organic nervous affections, and so we see that the other symptoms are of equal importance in settling the diagnosis of the condition in hand. There is no absolute guide as to the intensity of the normal reflex, and hence the practitioner must be acquainted with this fact in making up his diagnostic table in a given neuropathic condition. The importance, too, of the deep reflexes on the diagnosis of organic spinal cord lesions is of limited value, and chiefly confined to focal lesions which affect the spinal centers in-



cluded in the reflex arc, or in the tracts of the cord which have undergone more or less extensive degenerative changes.

### THE PREGNANT WOMAN.

A man born with hysteria is only half alive, since his existence becomes one continual need. Man's inherited thought, backed by hysteria and suggestion, make one of life's most pitiful and miserable objects; for suggestion in such person is easily able to create innumerable miseries and pains, since in the mere process of living he is compelled to wage an unceasing war with existence through the influences of his heredity and its abnormal suggestive motive. Truly, the web of such a man's life is of a mingled yarn of heredity and suggestion, which becomes the actual stalking of an ancient vice in the present living.

Heredity is an active moulding and determining factor of living earthly existence, and as such is a force as deeply inground as the very stroma of the living cell. Hence, be it for weal or woe, inheritance in man is a most powerful and all-controlling element. That men die as soon as they do is not from disease alone, but from an inherited acting suggestion. Man's pain, as a general thing, is only dangerous from its inherited suggested factors. A man assailed by the full force of a vicious inherited suggestion is certainly very close to death. The inherited fatal element in a vast majority of functional troubles apparently arise in and come oftentimes from hysterical suggestion.

The limit and the power of confidence or faith when deeply inwrought in man's brain has never been tested in its entirety. Because men die at certain ages this fact has been handed down by inheritance, and it is fated that the suggested period or trouble is always in evidence to make it so. There is no reason why the average life should be hedged in as it is, except for the eternal forcible reason that heredity has stamped it so. The deep elements of many of man's most serious troubles are seemingly rendered fatal only by mental suggestion, since it is demonstrable that destroying lesions are rarely present. Substance, as a general thing, is an honest factor, and apparently has in it the least of danger to man. It is the unseen and intangible factor which is life-robbing, since it operates unseen, and cannot be prepared against. In man, like Mercurio's wound, suggestion is sufficient; it needs no more, it needs no less, it is enough, and the man is dead. There is in man's mind a touch of the Supreme, but man is incompetent to grasp and to nurture it. There is in man's mind, if he could but find it, a benefiting force beyond all powers of nature. There is in man a rectifying power for vast processes of evil, but man cannot reach this, since heredity and suggestion throttle investigation.

While the world knows that woman, when pregnant, carries within that which may be moulded into a being of virtue or a thing of vice, yet it will permit her to be surrounded with influences favorable to warped mentality. The writer has read volume after volume of how laws might be devised to rectify evils, and of the damaging effects of defective mentality, particularly in the degenerate; read suggestions indicating how education might be of avail; read innumerable suggestions this way and that

way, even indicating that it were better to ruthlessly slaughter the markedly degenerate for the benefit of the living. We maintain in the deepest honesty that man has it in his power to lessen many of the harrowing elements of heredity through wise disciplined purpose, through just, humane, merciful and considerate laws.

Woman, when pregnant, is in her most natural and her most holy state. It is a period in life which is fraught with deep circumstance, which may either curse or bless humanity. For ages man and woman have begot children, and in the fixity of conditions it has run unchanged, almost unnoticed and void of that deep consideration which might lead to humane, merciful and grandeur progress.

Each pregnant woman should become the honest concern of the most sincere consideration of every nation, State, or individual man. If mental impression upon the bearing woman blesses or curses progeny, is not here the factor which even the grandest statesman that earth ever saw should eagerly and willingly give his highest and best consideration? At the risk of being considered a dreamer, the writer maintains that any woman who should become pregnant should at once become the deep concern of State and community. Laws should be devised so that surroundings may be arranged in their most beneficent manner to influence a coming mentality. If possible, *no woman should be permitted to bear children amidst surroundings of squalor, vice and want.* Realizing the enormity of the question, we feel incompetent to suggest, either efficiently or broadly. We are convinced that the pregnant woman should at all times be the watchful care of State, community and individual. There is every reason why this should be so, since from such course must come a bettering of elements in forthcoming progeny. Let it be a dream, still it is a dream which ennobles and refines the soul and fills it with the highest hope of humanity, mercy and progress. Instead of endowing universities, educational institutions, etc., with millions on millions, give some of these millions so as to take from want, squalor and crime its influence on the forming soul, for age upon age it is indicated to us that vice obtains its deepest perpetuity because the pregnant woman becomes a slave to her surroundings, and in her most impressionable period stamps upon her coming progeny the reflex of viceful surroundings. Man eternally must have the full force of cursed viciousness perpetuated just so long as cursed viciousness in surroundings are not corrected. Yes, it would pay the State, it would pay each individual soul in far nobler, grander and humane benefits to make the pregnant woman the kind object of consideration by surrounding her with that which suggests purity, kindness and humanity.

We know that woman as at present situated will continue to bear children subject to the influence of her surroundings. Ages have demonstrated this, and it is as fixed as life itself. The foundation of every State must consist in the education of its youth. In the formation of the child in utero the State's concern should begin, since this is the most impressionable period in life. If the fate of a nation ultimately depends upon the strength and health of its population, then certainly the nation's care should start in the very commencement of existence. The most successful legislator is he who has been most self-abnegating and humane. Noble motive in legislation can easily become public good. It is a sad fact that



the preponderance of law, yes an immense preponderance of law, is formed for the vicious; but it were better still if the good were considered, for even the good do not know what is best for them. There is an eternal soul affinity in all good men when the consideration is the bettering of humanity and country. Law, as it now stands to the great masses of mankind, is a thing of punishment, not a correcting mercy. No State can obtain the love of the people which only indulges in punishment. There must be benefit. The aim of humanity is progress. The bettering of a single soul should be the common concern of all. Then how can it be better improved in the progress of man than through the pregnant woman? Woman's sphere is limitless. She is the formative matrix for good or evil in any community, the very foundation, we should say; really the sound foundation for educational force. Better the pregnant woman and you better coming progeny. The attentive study and care of the mother will more than bless humanity; it will redeem it. As life is now lived so has it progressed. Life cannot be materially bettered except through its common source, the mother. In any State or mass of people the mother is essentially the relative source from which that State or community obtains its citizens, and in them the immediate and inactive element of vice and virtue. A vicious and inferior mother appears competent to control in most cases the character of progeny even though there may be virtue in the man.

In any event, the mother is the principal moulding agent, hence should receive the deepest thought and consideration. You may better a man and still not better progeny, but woman bettered becomes a sure power in the bettering of offspring.

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**Treatment of Typhoid Fever.**—H. C. Wood says the mortality rate of typhoid fever, when cases are seen from the beginning, should not be over three per cent. This will be true if the correct principles of treatment are carried out. These are: Absolute rest in bed from the moment the first suspicious symptom is recognized. No medicine should be given unless distinctly called for by some symptom. Mineral acids, fever mixtures, and the whole mass of drugs are, in his opinion, not only unnecessary, but perhaps harmful, when administered in a routine manner. A proper remedy should be given boldly and in proper dose when it is indicated to meet some symptom. Baths should be employed when the temperature reaches from  $100^{\circ}$  to  $100\frac{1}{2}^{\circ}$  or above. Turpentine should be given, commencing about the second week in every case. Laboratory and clinical experience shows that this drug has a specific local action on the typhoid bacillus contained in the typhoid ulcer. The patient should be carefully fed, not too much food being given. Semi-solid meat foods may sometimes replace milk to advantage.—*International Medical Magazine.*

## ORIGINAL ARTICLES.

### THE NATURE OF ACQUIRED IMMUNITY AGAINST ZYMOTIC DISEASE.<sup>1</sup>

BY G. ARCHDALL REID, M. B., F. R. S. E., of Southsea, England.

EVERY man begins life free of the micro-organisms of measles (for example), since he is incapable of infecting his fellows with that disease. But he is susceptible to infection, for on exposure to the contagion he falls ill of it. He then swarms with the micro-organisms, and he becomes infective to his fellows. On recovery, the microbes are banished from him; he is no longer infective. Recovery, in fact, implies acquired immunity; it implies the banishment of the microbes. In measles and many other complaints the immunity, the banishment is usually permanent. In diphtheria, nasal catarrh, relapsing fever, and other diseases it is often merely temporary. But in every case a profound change occurs whereby the body, which before was a fit *nidus* for this or that species of pathogenic micro-organism, becomes unfit for a longer or a shorter period. What is the nature of this change? Many theories have been hazarded.

It is noteworthy that it is only against diseases, the micro-organisms of which produce more or less powerful toxins—as judged by their systemic effects—that immunity can be acquired. When the toxins are feeble or non-existent—*e. g.*, in tuberculosis and leprosy—when the onset of the disease is unmarked by symptoms of poisoning, when the pathogenic micro-organisms, instead of engaging at long range, enter at the outset into what may be termed an actual physical struggle with the phagocytes, which, undeterred by toxins, at once attack the disease germs, and taking them into their substance attempt to destroy them, then immunity cannot be acquired. Moreover, the quickness and completeness with which immunity may be produced against any disease, though not its duration, seems, generally speaking, in direct proportion to the quickness with which the toxins are produced and their degree of virulence. Thus immunity is produced very quickly against measles and small-pox, but very slowly against syphilis.

Diseases, therefore, range from those which have virulent toxins and against which immunity can be quickly acquired, through those which have feeble toxins and against which immunity is more slowly acquired, to those which have no toxins and against which no immunity can be acquired. The duration of immunity depends on factors of which, as yet, we have no knowledge. It is clear, therefore, that whenever immunity can be acquired against any disease it is associated, as effect and cause, with the fact that in any such disease more or less potent toxins are almost always present. The microbes of many or all air-borne diseases have not been discovered, owing probably to their being too small to be visible under the microscope, but many earth and water-borne microbes

<sup>1</sup> Published synchronously in the *Physician and Surgeon* (London).



have been seen. In the latter case it has been observed that when virulent toxins are present the phagocytes cannot approach the disease germs at first; but that later, when recovery is occurring, that they are able to approach and destroy the micro-organisms, whose destruction ends the disease. The microbes of tuberculosis, which do not produce a virulent toxin, depend for persistence on what may be called personal vigor; they are able to endure prolonged physical contact with the phagocytes, and even to destroy them. A toxin, then, is a defensive weapon protecting the delicate microbe, secreting it against phagocytes. Acquired immunity consists in an ability acquired by the phagocytes to attack and destroy microbes which before they were incapable of destroying. In some way the toxins are then rendered innocuous to the phagocytes; but how? If that question be answered the problem is solved.

According to the theory commonly accepted, the cells of the host produce antitoxins, substances which are supposed to chemically antagonize or neutralize the toxins, much as an acid is neutralized by a base. Thus, when the toxins of diphtheria are injected into the horse, the cells of the animal are supposed to elaborate chemically antagonistic antitoxins in excess, and these, when injected into a human sufferer, are thought to neutralize the toxins in him. But immunity against any one disease does not confer immunity against any other; moreover, the symptoms produced by one disease are quite different from those produced by all others. Every disease (which has a toxin) has, therefore, its own special toxins. It follows, if the hypothesis we have under consideration be correct, that the animal body is a kind of magic bottle which produces at need, and with the greatest exactness and speed, many highly complex chemical substances, the antitoxins, which exactly neutralize other highly complex chemical substances, the toxins.<sup>1</sup> Some extraordinary hypotheses have gained credence during the history of medicine, but it is doubtful whether anything quite so incredible has ever been so universally received.

Antitoxins may be artificially produced by methods other than by injecting toxins into the tissues of a living host. In preparing antirabic antitoxin, Pasteur dried the spinal cords of hydrophobic rabbits. He found he could produce immunity against rabies by injecting emulsions of these, beginning with a cord which had been thoroughly desiccated and was much altered, and ending with a cord which was absolutely fresh and virulently infective. In this case no vital action was possible. Antitoxins did appear, but they arose in a dead thing, the slowly drying cord. Clearly the theory that the host by the vital action of his cells produces chemically antagonistic substances did not apply. Thereupon the theory was advanced that it was the parasite, not the host, which produced them.

Professor Fraser voiced that opinion when reporting his researches on snake venom. He found that enormous doses of snake venom could be swallowed, not only without danger, but actually with the effect of producing immunity against lethal doses of injected venom. He explained this remarkable result by supposing that the snake was good enough to produce, not only toxins, but substances which chemically antagonize its own poison, the former in excess, and that the stomach was wise and dis-

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<sup>1</sup> Antitoxins have been found in a rabbit's ear very soon after the injection of the toxin into it.

criminating enough to reject the toxins while accepting the antitoxins, hence the resistance to subsequently injected venom. But if anthrax bacilli be cultivated under abnormal heat (from 42° to 43° C.), they gradually lose their virulence, and if sheep are inoculated, first with bacilli of little virulence, next with those of greater virulence, and lastly with bacilli of great virulence, the animals can be rendered immune to bacilli of the greatest virulence, and can thereby be protected against the disease. Here Professor Fraser's theory clearly breaks down, unless it be supposed that bacilli of little virulence produce substances which chemically antagonize those produced by bacilli of greater virulence—an incredible surmise. The bacilli are introduced alone or with an insignificant amount of toxin. The antitoxins, whatever they may be, are elaborated within the sheep; and it is difficult to understand, if they are substances chemically antagonistic to the toxins, why they should be elaborated only when the animal has undergone such treatment, and not otherwise. Again, if we pass the virus of small-pox through a series of calves, the organism producing that disease becomes so attenuated that if a human being is vaccinated from the calf there results vaccinia, not variola. In this case, as in vaccination against anthrax, only the attenuated micro-organisms, with at most an infinitesimal amount of its product, is introduced, yet the result is that the powers of resisting the graver disease are acquired.

It would seem, therefore, that the accepted theory of immunization is inadequate. *A priori*, it is wildly improbable. *A posteriori*, it breaks down when put to the test of experiment. A more simple and natural explanation, one that depends less on the miraculous, sufficiently meets the case. Nicotine and opium are both in a real sense toxins. They are poisons elaborated to protect the organisms producing them from the organisms to which they are liable to fall a prey. Extremely poisonous at first, use gradually renders them less so, till enormously increased doses can be taken with impunity. To what shall we attribute this gradual immunization? To the formation in the blood of substances which chemically antagonize nicotine and opium? Surely not. It is sufficient to suppose that the system becomes habituated to them just as it does to heat or cold or fatigue. To some extent—to a large extent—habituation to the toxins of disease explains acquired immunity. But it does not do so wholly. By beginning with small doses or non-lethal doses of diphtheria toxin or snake venom, the dose can be increased with impunity far beyond the lethal measure. By injecting too frequent or too large doses of tetanus toxin into a horse, the serum becomes actually toxic, yet the horse manifests no symptoms of tetanus, as it would did immunity depend on the production of chemically antagonistic substances, not on an habituation to the poison. So far the facts may be explained on a theory of mere habituation. But if a toxic dose of nicotine or opium be taken, an additional dose merely adds to the poisonous effect; the case is entirely different when disease is treated with antitoxic serum. A man poisoned with the toxins of diphtheria is benefited, not injured, by a dose of immunizing serum from the horse. Here the theory of habituation seems to break down. Clearly the man receives something more than mere toxins from the horse. Two sets of facts must be considered to explain this phenomenon.



(a) Phagocytes do not destroy bacteria by mechanical means, by crushing or tearing, but by a process of digestion. Bacteria ingested by phagocytes are seen to undergo gradual disintegration. But this process of disintegration is not exercised only on bacteria ingested by the phagocytes, or with which they are in actual physical contact; it may affect them at a distance. Thus it has been found that during recovery from diphtheria and pneumonia numbers of the pathogenic microbes perish without direct contact with the cells. It is not too much to assume that the same agent causes the death of the free microbes as that which causes the death of those which are actually ingested. In other words, we have good reason to believe that they perish by reason of a digestive substance secreted by the cells and set free with the fluids of the body, just as pepsin is set free in the fluids of the stomach, or as toxins are set free by microbes. This, then, since it is highly improbable that there is one substance which destroys bacilli at close quarters and another at long range, is probably the germicidal substance found in the plasma and the serum of immune animals. But besides the germicidal substance there is evidence that in the blood of an infected but resistant animal there is present another and probably a distinct substance, which destroys or renders inert the toxins; and reasoning from analogy this also is a digestive substance. Klein found that if pure toxins were injected into a horse the serum acquired a high antitoxic, but comparatively low germicidal power, whereas if bacilli were injected the reverse occurred. The commonly accepted belief is that it is a substance which chemically antagonizes the toxins—a belief hardly reasonable when we consider the multitude of diseases and the complex chemical nature of their toxins. On the other hand, it is by no means incredible that a single digestive body is capable of digesting all these "toxalbumins," just as pepsin is capable of digesting a variety of proteid substances; or even that there are two or three different digestive bodies which severally digest the toxic albumoses, globulins, peptones, etc., which the different species of microbes produce. We may fairly conclude, then, that the destruction or attenuation of toxins, which occur in the body of a resistant animal, is due to their digestion by one or more enzymes secreted by cells that have that special function; and it follows that when a resistant animal is recovering from a disease in which the toxins are abundant, or when repeated doses of toxins are injected into a resistant animal, there must be present in his blood, and even in his serum when drawn off, first, two or more digestive substances, and secondly, toxins in all stages of digestion—that is, in all stages of attenuation. When, therefore, we inject antitoxic serum into the blood of a sufferer, we do not merely supply small doses of toxin, we supply attenuating enzymes and toxins attenuated by them.

(b) Now recovery from rabies is normally extremely rare; but Pasteur got a high percentage of cures by injecting emulsions of desiccated cords from infected animals. Presumably the cords contained toxins attenuated in a scale graduated according to the duration and extent of desiccation.

It appears, then, that there are two ways in which an organism may become artificially habituated to a toxin: (1) By treatment with increasing doses of it, beginning with small non-lethal doses, and ending with large lethal doses. This happens, for example, when the tobacco or

opium habit is acquired, or when snake venom or diphtheria toxin is injected into the tissues. (2) By introducing attenuated toxins into the system, as when snake venom is swallowed, or when antitoxins—*i. e.*, digested toxins—are injected under the skin, or when inoculation with attenuated microbes is practiced. In the first case we begin with small doses, and pass to larger doses of the same substance; in the second case we begin with an altered and enfeebled toxin, and pass on to the unaltered and virulent toxin. In either case the result obtained is the same, but there is this practical difference in the working—a man already poisoned by a toxin is only more poisoned by giving him additional small doses of it, as in the case of nicotine and opium; but he is relieved by supplying him with the attenuated toxin. He then, if not too much poisoned, reacts to the attenuated toxin, and from the vantage ground thus gained reacts to the unaltered poison. When the toxin is very virulent—*i. e.*, when reaction against it is very difficult, as in the case of rabies or anthrax—it may be necessary to begin with much enfeebled toxin, and pass gradually to less and less enfeebled toxin, before reaction can be obtained against the unaltered toxin.

It would appear, then, that the natural process of recovery, of immunization, from toxic zymotic disease is this: First, the individual is infected by the micro-organisms, and is poisoned by their toxins. But if death does not ensue, his cells produce enzymes which digest the toxins, and injure the micro-organisms producing them. As digestion proceeds a graduated scale of toxins is produced, *and up that graduated scale the cells of the individual react till they become indifferent to the strongest toxins, and are then able to destroy the micro-organisms.* Pasteur imitated this process in his cure of rabies, and in the production of immunity against anthrax. Jenner did it, all unconsciously, when he procured immunity against small-pox by inoculating with the attenuated virus of vaccinia.

Immunization against snake venom is induced by attenuating the poison in the stomach. It may be possible, on the same lines, to cure a disease by swallowing and digesting the toxins of some disease. On the other hand, all toxins are not digested in the stomach; at any rate they are not rendered innocuous. Opium, or rather morphia, is an example.

Were it possible to attenuate morphia by slightly altering its chemical composition, this altered product would probably prove of curative value during actual poisoning with morphia.

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**Removal of Ear Wax.**—Hardened wax in the external ear can often be removed readily by injections of warm water and soap, soda or ammonia. Many cases resist this, and require the softening effects of glycerin or sweet-oil for a day or two before syringing. Do not bother with these long processes, but use a half-strength solution of hydrogen dioxid in the ear for about five or ten minutes. This will disintegrate the hardest plugs, and they can be removed with very little syringing. I have yet to see the case in which this process has caused irritation or inflammation. Do not use too much force with the syringe. Wipe the ear perfectly dry with absorbent cotton and apply petrolatum. Wear a small plug of cotton in the ear for one day after removal.—*Philadelphia Medical Journal.*



## HYSTERIA: ITS PROTEAN MANIFESTATIONS AND TREATMENT.<sup>1</sup>

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IN THE vast domain of medical literature perhaps no malady has contributed more voluminously to its bulk than that which forms my theme. From its extreme antiquity and obscure nature and character, hysteria has ever proven a fruitful field for doubt and speculation. From the days of Hippocrates even until the present time undoubtedly the greatest conundrum in practical medicine is a satisfactory explanation for all the varied phenomena belonging to the nervous affections we term hysteria.

It is not the purpose of this paper to attempt to solve the manifold problems connected with its pathogeny, or offer any new theory or device concerning its abstruse character, but simply to emphasize a few facts in regard to the origin of its peculiar protean manifestations that I fear are sometimes overlooked in its general care and management. For centuries the dominant idea in regard to its pathogenesis recognized the uterus as the seat of the affection. This fanciful womb doctrine was first taught and believed by Hippocrates and Plato, and has since reigned supreme until within a comparatively recent period. With slight variations of expression, this false uterine pathology served the purposes of so-called medical science for over two thousand years, and even to-day, because its sexual manifestations satisfies the notions of the laity as well as the more ignorant of our profession. Moreover, it was formerly believed to be confined to the female sex, but in recent years it has been discovered that men are quite frequently found suffering from hysteria, and as it occurs at almost any age and under all conditions and circumstances, it is recognized to be no respecter of persons.

It would be a great sacrifice of time for me to attempt to even briefly allude to the numerous nonsensical theories and foolish ideas advanced at different periods in its history by the various writers in explanation of its varied phenomena. Suffice it to say that the neuron theory affords perhaps the most rational hypothesis by which modern medical science explains the marvelous fluctuating characters of hysteria.

As a result of recent investigation and consequent perfected knowledge of the finer structure of the central nervous system, the consensus of opinion by those most competent to speak declare that hysteria is a psycho-neurosis or an affection of the higher cerebral centers primarily, with secondary involvement of any one or all of the functions of the nervous systems. Moebius defines it as "a state in which ideas control the body and produce morbid changes in its functions." Lloyd says "it is a psycho-neurosis of which the physical symptoms are the most conspicuous, tending to disguise the mental phenomena and to simulate superficially the effects of various organic diseases." Gowers recognizes it as "a

<sup>1</sup> Read before the Missouri State Medical Association, May 15, 1900.

morbid derangement of the higher cerebral centers or loss of the due balance between certain of the higher functions of the brain, with secondary involvement of the lower centers in the brain, spinal cord and sympathetic system." Hysteria is thus recognized as a true mental disease primarily, with secondary involvement of the various functions of the nervous systems.

Modern scientific research also demonstrates that hysteria is not, as erroneously implied, a protean affection or false pretense expressed through conceit or knavery of the patient, in which a simulation of all kinds of disease occur, but, on the contrary, it is a genuine malady or disease of the higher cerebral centers, having a distinct morbid entity essentially its own, with well-defined clinical characteristics which may, however, be protean in their manifestations. This, therefore, constitutes one of its more important practical elements; and while it may seem at one time by its symptoms to indicate disease of the uterus, bladder or rectum, and at another the liver, stomach, kidney, or indeed any organ or organs of the body, yet, after all, these may be mere protean manifestations of primary impairment of the higher cerebral centers, with secondary involvement of the nervous mechanism governing these various organs.

The study of physiology clearly teaches us that there is a complex interaction or correlation between all parts of the nervous system, the controlling power of which finds their highest expression in the finer cellular mechanism of the brain. All parts of the nervous system, together with their specific function, are thus found not only to receive, but concentrate their highest attributes in nerve centers, which reside in and form part of the encephalon. The higher inhibitory centers are known to control, increase or augment the functional activity of all the lower nerve centers, together with their specific mechanism of the brain, spinal cord, visceral organs, and indeed all parts of the human organism subject to sympathetic innervation. Hence the latter becomes subservient in point of power and influence to the former, which is also greatly intensified in morbid states of the nervous system. Moreover, these higher inhibitory centers are known to be perfected at different rates and degrees in different individuals, and are the latest of all the functions of the nervous system in acquiring their supreme development: Thus it is easy to understand that any defect in an atomic conformation or physiologic involvement of the functional activity and power of the higher cerebral centers may lead to disorders in the mechanism of any one or all the organs dependent upon their specific influence. This also offers a rational explanation of the wide and varied range of the symptomatology of hysteria, together with its protean manifestations, for its marked feature is ever recognized to be its multiplicity of symptoms and their constant change of degree and form.

\* A fact that needs further emphasis, however, is that while the manifestations of hysteria are protean in both degree and form, yet their source of origin is the same throughout its entire course and duration, and can, as already shown, be referred to a primary derangement of the inhibitory centers of the brain, even though at times there be marked subsequent involvement of the somatic organism.

In its diagnosis this fact is sometimes overlooked, and because the symptoms are referred by the patient to certain special visceral or other



organs, their true source is thus made obscure or misleading, and the effects are thus taken for the cause and the disease regarded as having its seat in the organs apparently affected. Especially is this true in the anomalous forms of the affection; hence many a case of hysteria is allowed to mature in both degree and form, even though the patient be under constant medical care and attention. Every community has its chronic hysteric invalids which have possibly been treated by numerous physicians for some indefinite disease of the stomach, liver, bowels, uterus, kidney, or other organ for a varying length of time without any apparent relief. In such cases the symptoms undoubtedly were misleading and the effects taken for the cause; hence the treatment adopted was both inappropriate and disappointing. Nor is this strange when I state that, contrary to the popular belief, the diagnosis of hysteria at times constitutes the most difficult problem in practical medicine. Of course, in its more common typical clinical manifestations, nothing is easier; but often it presents itself in anomalous forms that puzzle the most expert diagnostician.

In studying the psychologic aspects of hysteria we find the organs which constitute the mind—viz., the intellect, emotion and volition—play an important rôle in its clinical manifestations, and that their morbid action gives rise to an extensive and varied symptomatology which is nothing more or less than the outward expression of an inward unstable psychical organization. In the normal mental condition the volitional power in man dominates the intellectual and emotional faculties; but in hysteria this order is reversed, the will becoming subservient to the emotions. Moreover, in hysteria the nervous system is more or less dominated by ideas as well as by the emotion; hence the definite conception of a symptom may lead to its occurrence. For instance, the idea of a loss of power in certain muscles may later render it impossible for the patient to will the normal movement of a part; hence paralysis occurs. Again, a definite pain in a part is conceived or thought of, and before very long it may be actually felt by the patient. When ideas are thus conjoined to the emotion, the motive of the patient becomes stronger to yield than to resist the morbid tendency, and the cultivation of symptoms, which at first may be unconscious or involuntary, may then become conscious and intentional. In referring to this, Gowers claims "that those symptoms that are at first merely unresisted may be afterward welcomed, then invited, and at last actually induced or consciously stimulated." This pathogenic influence of idea is seen in all varieties of hysteria and is exceedingly important from a medical standpoint, for, as is well known, hysteric persons are extremely susceptible to certain impressions that render them vulnerable to all forms of morbid suggestibility.

Oversolicitation or frequent examination on the part of the physician in his medical inquiries, or the anxiety of friends to visit the patient in order to ascertain the cause and progress of certain symptoms and the possibility of their results, or the development of other morbid states often unconsciously and unintentionally suggest to the patient certain definite and morbid states that later appear as actualities. The skill and wisdom of the physician is therefore displayed in his apparent indifference to the protean character of the symptoms, for to treat them as they hourly arise would mean, at times, an endless variety of therapeutics.

If hysteria, as already shown, is a true mental affection, involving the physical organism in varying degrees and forms of intensity, it follows that its treatment must necessarily take cognizance of both mind and body. To accomplish this successfully it is essential that the physician is allowed the full care and control of the conduct and life of the patient, and this can only be done by removal of his patient from all sources of irritation and indulgence. That their home life, as a rule, furnishes the most fruitful soil for the cultivation and development of both of these etiologic factors is well recognized. Hence, the treatment of hysteria at the home of the patient means absolute failure from the start. Dr. Weir Mitchell, referring to this, says: "It is rare to find hysterics so free from the influence of their surroundings as to make it easy to treat them in their own homes. I have often made the effort to treat them in their own homes, and to isolate them there, but I have rarely done so without promising myself that I would not again complicate my treatment by any such embarrassments." These remarks eminently coincide with my own experience; and I have for some time considered it labor in vain to treat such patients without the enforcement of the principle of isolation away from home. The separation of the hysterics from home, friends, and relatives is often a difficult task, as they cannot perceive the wisdom of such a course, besides the expense. This measure, they claim, has the aspect of harshness, as well as being unnecessary; for if it is a question of good nursing, they are amply able to provide this at home, as well as every other comfort. I confess that it is not easy to cope with the many excuses offered, but I contend that the successful issue of the case depends very largely upon the rigid enforcement of the principle of isolation. When this is secured you gain the additional advantage of supplying the requisite amount of rest and exercise, beside the full power belonging to suggestion, and all other therapeutic measures indicated suitable to the case.

As hysteria develops from an abnormal psychical organization, the growth and cultivation of morbid ideas or imperative concepts are easily engendered which may be entirely subconscious; hence the patient is often ignorant of the morbid ideation that dominates his every thought, word, and deed. To be effectual, therefore, the psychical treatment must be directed toward the dissolution of this pathologic mentalization, and the substitution in its stead of a healthy mental process. For this purpose the full confidence of the patient must be secured by the physician—a task not always easy—and the peculiar mental traits and characteristics carefully studied, which will also suggest the birth as well as the nature and character of the new idea to be established. The essential qualifications of this newly acquired idea should embody the inspiring influence belonging to hope, progress, and co-operation, with sufficient force and power as to impress upon the mind of the patient the certainty of ultimate recovery. This plan, therefore, embodies an educational scheme, the special object of which is intended to restore to the will its normal control of emotions and intellect, at the same time teaching the patient to become more self-confident, self-dependent, and self-reliant, without which all methods of treatment prove futile.

In the accomplishment of this purpose many agents are employed, the most useful of which, perhaps, are electricity, massage, hydrotherapy,



dietetics, and the use of drugs, all of which have their special indications in the treatment of hysteria. As the special uses of these various agents are ably referred to in the text-books on nervous diseases, it is unnecessary for me to enlarge upon them at this time; suffice it to say that the medicinal treatment of hysteria is largely secondary, while surgery is rarely indicated.

## THE TRANSMISSION OF SOUND CONSIDERED AS TO ITS TRUTHFUL REPRODUCTION THROUGH AMPLIFICATION.

BY WARREN B. OUTTEN, A. M., M. D., St. Louis.

GENERALLY speaking, sound is the active medium connecting material with so-called immaterial elements; it determines character, scope and expression, seemingly rendered possible by bringing physical construction in union with and materializing through psychic function. Sound, like other forms of energy, is correlated in its widest range with man and his existence. The science of sound—acoustics—comprehends the entire area or realm of sound; hence it is impossible to give an explanation of the simplest cases of musical harmony, voice-expression, natural productions of an operative nature, without a knowledge of the nature and laws of sound as comprehended in what is known as acoustics. Many of the most complicated elements of sound were unknown a comparatively short time ago. It is not quite thirty years ago since Helmholtz in his masterly work, “*Die Lehre von den Tonenfundungen*,” completely revolutionized the subject of acoustics. This work is to-day considered unequaled in profundity of thought and marvelous experimental research. It advanced acoustics in a manner never before accomplished. It is repeatedly asserted that it was left to another eminent worker, Dr. Rudolph Koenig, of Paris, to explain what Helmholtz failed to make clear, by supplying omissions and correcting errors which were inevitable in such an extensive work. Thereby Koenig was enabled to contribute some of the most important facts and discoveries which now go to make up the science of acoustics.

Upon a review of this subject it will be seen that acoustics has advanced with constant rapidity. It is not proposed at this time to write anything like an exhaustive dissertation upon acoustics, but merely give the writer's experiences in connection with experiments concerning the truthful transmission of sound as exemplified in its reproduction and mechanical recording. It certainly seems pertinent at this time to ask: What is sound? How is it produced? How is it transmitted? Aristotle says: “Sound in act is always produced by a body toward another. It is a shock that determines it.” Seneca, speaking upon the same subject, says: “What is the sound of the voice if it be not the disturbance of the air occasioned by the movement of the tongue? And to come to details: What song could be heard were it not for the elasticity of the air? And are not

the sounds of horns and trumpets and hydraulic organs also explained by the same elastic force?"

"Sound," quoth Bacon, "is one of the subtlest pieces of nature." Locke, in his usual rare sense, says: "That which is conveyed into the brain by the ear is called 'sound,' though in truth until it come to reach and affect the perceptive part it is nothing but motion. The motion produces in us the perception of sound and is a refraction of the air, caused by an exceedingly short, quick, tremulous motion of the body from which it is propagated, and, therefore, we consider and dominate them as bodies sounding."

Here we have indicated in this definition that which any definition of sound, to be correct, must include and comprehend—sound as a mode of motion, and sound as a sensation. Sound, then, is produced by motion acting upon molecules or ultimate particles, of which matter is composed acting through the organ of hearing, exciting or producing sensations in the brain. Sensation can only be caused by matter and motion.

Matter is the stimulus, sensation is the result. Sound, then, is the resultant of conditions, and cannot exist without brain and nerve connections and the imparting of motion to ultimate particles of matter. Motion is the efficient cause of sound, and sounds differ one from another in three ways: (1) In loudness; (2) in pitch; (3) in quality. Loudness depends upon the quality and degree of vibration of the particles of the sonorous body. Pitch is due to the rapidity of vibration of the particles entering into composition of sonorous body. Quality emanates from diversified causes, such as general surroundings, materials composing and entering in construction. Mental condition, mood of performer, hypnotic capacity, etc., are influencing elements of quality. In speaking of the loudness of sound it is necessary to distinguish between the sensation of loudness and the mechanical action which gives rise to it. We have no measure for loudness, so far as sensation is concerned. Acute sounds appear louder than grave ones. A base note, therefore, to sound as loud as one in the treble must be executed with proportionally more force, since the ear is not equally sensitive to all sounds. Loudness of sound for any given note depends upon the amplitude of vibration of the sonorous body. Hence the greater the amplitude the louder the sound. Sound varies also with the distance of the sonorous body from the ear. Again, it is a well-established law in acoustics that the loudness of sound varies inversely as the square of the distance of the sonorous body from the ear, of course, depending upon the amount of matter set in vibration, which increases as the square of the radius of the shell affected. Loudness of sound, of course, is affected by the density of air, the proximity of other bodies capable of vibrating with it. Pitch, as before stated, depends upon the number of vibrations made, and is heightened exactly in proportion as the number of vibrations is augmented. According to authority, quality "is dependent upon the number and relative intensity of the partial tones which accompany the fundamental tones."

It is a well-established law in acoustics that when two sounds are in unison and in the same phase they tend to reinforce each other; but if their intensity is equal, these sounds, being in opposite phases, they obliterate each other and silence is the result. So the augmentation of sound mainly



depends upon the unison and similarity of the phases; along with this co-vibration or resonance plays an important part in reinforcing sound, particularly in musical instruments. Owing to the recent advances in acoustics it has become more and more a mooted point whether or not the sound boxes of talking machines, and particularly the instruments used in physical diagnosis, are competent to give a true interpretation of sound emanating or being transmitted through them.

So far as the instruments used in physical diagnosis are concerned, there is a grave doubt as to the full scope and true "quality" of heart and lung sounds being interpreted in truth and entirety. What has been heard by the application of the ear alone, and by various forms of stethoscopes, no doubt give a true interpretation as far as they go, but they are incompetent to amplify all sounds which are undoubtedly existent. The present means used by various sound amplifiers have not been placed upon anything pertaining to a basis of comparison. Hence there is existing no standard. We have been compelled to accept any accentuation of sound as correct. In this condition the physical diagnostician has been compelled to adapt himself to the knowledge he has; but there can be no doubt that when a standard is created the new means of amplifying will bring into existence a new and important set of sounds which may be of undoubted value in prognosis, diagnosis, and pathology.

Since the introduction of the phonograph, graphophone, etc., the instrument used by physicians in physical diagnosis, the truthful recording and reproduction of sound becomes daily more imperative and important. Because a diaphragm used in the recording box of a phonograph will record sounds, there is no evidence that these sounds thus recorded are truthful. The quality, character, and peculiarities of tone have not been demonstrated by the various so-called talking machines, nor in the instruments used in physical diagnosis. When the phonograph was first invented it was asserted that records could and would be made having all the marked peculiarities of the tone possessed by the individual, so that an Edison might speak in truthful tones to ages yet to come. But this has not been accomplished. We believe that this has not been accomplished simply for the reason that unvarying and definite materials have been used, possessing in no sense the somatic and chemical range of adaptability used by individuals when exercising their capacity and power of sound utterances. In other words, we believe that to repeat and reproduce the human voice the recording means must have similar physical and chemical elements. We do not believe that glass, mica or hard rubber can truthfully record the human voice; that the quality of sound when so recorded will have the quality of glass, mica and hard rubber, and not the real quality of the sound made.

The truthful interpretation of sound depends upon the truthful interpretation of its quality; and any medium which will not truthfully carry the partial tones accompanying the fundamental cannot obtain the quality, which is but another name for true tone interpretation. The recording means must have similarity of phase in order to truthfully record.

In order that it may be better understood, we will briefly explain our experiments in connection with this matter. Having become interested in the phonograph, we began to experiment, and our first endeavor was not to

augment sound, but aiming to repress it by means of increasing the number of vibrating agencies. First, we took the reproducing or sound box of the graphophone, which, as is well known, uses an inch and a quarter diameter glass diaphragm, about one-ten-thousandth of an inch in thickness, to both record and reproduce sound. We removed this glass diaphragm from a reproducer or sound box, and in its place stretched tightly over the frame of the sound box a layer of gold beater's skin. Microscopic cover-slides were attached to this layer of gold beater's skin, varying in number from five to twenty. These cover-slides were placed in juxtaposition one upon another, with a drop of glycerine between each. It was found that just so long as their weight did not interfere with vibration that the sound was augmented, and at times, not always easily explained, wonderfully so. From this fact we were led to further experimentation. Throwing aside the glass we began to experiment with animal membranes—such as gold beater's skin, bladders, muscular coat of intestines, and various fabrics, such as silk, linen, cambric, cotton, etc. In our experiments it was soon found out that not only equal tension, but that a similar physical condition of each layer was necessary in order to obtain augmentation, but quality as well. When, for instance, a layer of gold beater's skin is stretched tightly over the frame of a sound box, the next layer must be placed as equally tense; for if a single layer of membrane becomes crumpled and creased in its phase, it obliterates much of the sound. But when these membranes are properly placed under equal tension, and seemingly in the same phase, they act in unison, and augmentation of sound occurs, and additional basic notes are made manifest not previously perceptible. Again, in order to obtain the best results a central disc must be used so that the sound coming through the superimposed stretched membranes may be properly focused. Again, the spaces between the intervening layers must be separate and of equal distance and in the same condition. By placing these membranes one upon another, equal tension and space, and in similar condition, the sound is greatly augmented. We have varied the number only to have the sound augmented in proportion to the number so arranged, and we believe improving constantly the quality of the tone. With forty layers so placed we have obtained remarkable augmentation. Hence we believe that it is only a matter of physical construction to augment sound propelled through these membranes almost indefinitely.

Sound, mechanically considered, is, as we have seen, in all cases due to vibratory motion, and when these vibrations are in similar phases an increasing loudness is the result; additionally, when we are dealing with resonant elements, their covibration lends aid to loudness. In the mechanical construction of any sound box, be it for a talking machine or for physical diagnosis, every element of its construction is harmonized and adapted to the purpose of obtaining both augmentation and quality. First, tension begets the more perfect vibration of ultimate of particles; the application of the central disc not only adds to tension, but focuses the sound at the center of membranes. Now, the interval between the membranes compresses the air more or less, and thereby adds to force of vibration; and there can be no doubt that the manner in which membranes are treated add greatly to the ease of transmitting sounds. If a solution of chloride of platinum be applied to a membrane, and at the same time a solution of



the chloride of aluminum to another, it will be found that the membrane treated with aluminum is infinitely more resonant than the one treated with platinum. Every individual chemical element appears to have individual qualities; hence we are compelled to believe that chemicals will group themselves naturally through the entire note scale. Not only this—we believe that it is possible to construct boxes which are inherently either basic or treble, as the case may be, and that combinations can be made possessing any element in the sharp or flat scale, and that boxes can be made according to the key desired. Now, in the recording and reproduction of sound it is plain to our mind that mechanical construction has to be corrected in order to overcome the contact and reception of the waves of sound carried to it. A perfectly flat disc composed of layers of superimposed membranes is not competent to receive and record all the sounds conveyed to it. Until sound boxes can be made possessing the inherent construction of the membrana tympana, with its concavo-convex surface, many of the sounds applied against it will not be interpreted.

From our experience we are forced to this conclusion: that sound boxes can be constructed capable of recording almost the entire range of sound, and by their delicacy of receiving impressions will not need any paraphernalia for the concentration of the sound. It can be demonstrated that all apparently rigid rims of membranes, which, so far as sight and sense of touch is concerned, look incapable to convey any except the most forcible wave impressions, will record the most delicate of sounds.

At the present time we are convinced that in the recording of sounds by sound boxes that almost any element of individual quality or characteristic can be reproduced; and from work already accomplished it does not appear to be an impossible problem, but one which can and will be accomplished, to make records so perfect in detail as to make them perfectly recognizable. We maintain that when all of the laws of acoustics are properly applied in the recording of sound with animal membranes, that individual records will be made and considered of absolute value, not only intrinsically, but commercially.

That they (sounds) can be made remarkably pure is easily demonstrated, thus proving that when sounds are in unison and in the same phase they lead to reinforcing each other. We will not at this juncture further discuss this, but proceed to review other matters. Not the least point in connection with this subject is the power of the superimposed membranes to truthfully record and interpret sounds transmitted through them. The recording and interpreting medium must have the same relative condition and physical composition as the organ of hearing. The wonderful capacity and construction of the membrana tympanum must be imitated as faithfully as possible in order that sound may be truthfully interpreted. This we do not believe can be done with metal, glass, hard rubber, or other single element. While we can make loud reproductions with dried animal membranes, silk, etc., yet we believe that moisture is an essential element in the perfect recording and reproduction of sound. Any medium used in transmitting sound, in order to transmit truthfully, must have the same relative conditions of structure. The membrana tympana will not interpret sounds other than its structure determines; nor can an imperfect medium transmit and record sound other than its

structure determines. Hence in the construction of sound boxes used either by the physician in physical diagnosis or in recording or reproducing sound, as in phonographs, etc., a similarity in structure and construction must be used. The combinations arising in the transmission of sound when elements of definite and unvarying composition enter into their somatic construction can only have limited and circumscribed range. Glass, metal, mica and other fixed forms are incapable of transmitting the purest of quality. Such diaphragms may have loudness, but are imperfect in all the elements constituting "quality." Now, in the use of animal membranes, combinations, composition and arrangement are virtually endless. It is an easily demonstrable fact that many combinations to which animal membranes are susceptible present to even the most obtund almost every element which constitutes "tone quality." Thus, for instance, in the construction of a sound box used either for recording or reproducing sound it can be modeled in such a manner as to evince decided truth or quality in almost any tone of the scale note.

The manner in which the membrane is treated is susceptible to the entire range of chemical substances; that is, the influence of these chemical substances when the membrane is impregnated with them have influence not only in loudness and pitch, but decided quality effect. In our experiments with the chlorides of various metals it was demonstrated that they (these chlorides) have a positive and undoubted influence upon any element of tone. Thus, a solution of chloride of gold, twenty grains to the ounce of water, applied to each membrane when making a diaphragm for the sound box of the phonograph, accentuates the base notes and softens tones generally. The same is not true with silver, owing to its highly escharotic character, but makes a membrane more in the treble. The chloride of platinum seems to deaden these membranes, and, like the metal, is a poor tone portrayer. The chlorides of tin, aluminum, nickel and copper accentuate the treble clefts, while barium and cadmium have seemingly little influence; but the chlorides of strontium and uranium offer promise, as they certainly soften all tones.

The influence of various oils upon these membranes likewise present points of undoubted value, for when these membranes are impregnated with the different oils, they carry out the essential factors demonstrated in the application of the chlorides, the lighter oils giving lighter tones. Glycerine is among the most perfect tone givers, whilst a properly mixed solution of liquid glass seemingly obtains the best results in tone transmission.

Again, the application of various powdered substances between the membranes all modify tone more or less, whilst mercury produces a decided resilient result. Naturally the character of membranes modifies quality, loudness and pitch; it can be stated as a general truth that membranes retaining their muscular fiber have the broadest and best power of vibration, such as gold beater's skin, animal bladder, and the muscular coat of the intestines. The tunica albuginea testis and the pericardium of the animal, under proper treatment, make good transmitters and sound producers, but are not equal to the membranes above mentioned.

By the placing of different layers of animal membrane, silk, linen, cambric, etc., loud sound boxes can be constructed. But dry elements



used in the construction of these sound boxes have limited scope in quality. Moisture is an essential in the construction of the sound box in order to obtain the best "quality." From what we have said thus far it can be seen that it is a truth that sound is augmented by the placing of a number of layers of membrane one upon the other, and that their arrangement, treatment and condition admit of unlimited range and are unlike definite and unvarying materials, like glass, mica, metal, hard rubber, etc.

From experiments thus far made we believe that it is only a mere matter of time, a very short time at that, in which every element of quality can be truthfully recorded and reproduced. We believe that the voice of a celebrated singer, the voices of the world's geniuses, the artistic effort of celebrated musical performers, in terse, the truthful quality of sound, can be recorded and reproduced; for, as above stated, the combinations to which these layers of animal membrane are susceptible, possess in themselves the power to express the full scope and purity of quality in tone. We believe that we can so arrange and treat these membranes, tissues and fabrics as to record the soprano voice as easily as any other voice, and that the seemingly intangible quality in violin music can be perfectly recorded. If it can be shown that animal membranes, etc., by a number of layers, manner of position, condition of membranes, have the power to change their character by the application of chemical substances, the influence of substances between the layers, and the mechanical construction and arrangement, all influence quality, then certain it is that a combination can be made which will truthfully interpret every characteristic or element of quality submitted to it.

After two years of experimentation we have demonstrated that each individual voice can be recorded and reproduced in the best elements of "quality." In physical diagnosis the physician has not been able, with the means at command, to have any standard of comparison by which he could determine whether or not the quality of a heart beat or a lung rale is correct as nature makes it. Now, taking, for instance, a given number of layers of animal membrane, and putting them on the sound box of the graphophone, you can determine the capacity of this diaphragm (composed of this given number of layers) to determine its capacity in the interpretation of quality as shown on the graphophone. Now, put the same number of layers upon an auscultator, which is essentially a sound box used as a stethoscope, a basis is at once established. We do not believe that the true "quality" of heart and lung sounds have ever been made manifest; but, with the application of this device, hitherto undefinable sound can be shown and made elements of value in pathology, diagnosis, and treatment. In any event, a new field is opened up to the investigating physician which may be of great value.

Again, in the construction of either a sound box or a talking machine or an auscultator, the focusing element used in the same is of rare value, and appears to possess the power of giving accentuation to sounds coming through the membranes composing the same. The best focussing disc which we have yet used has been the membrana tympana of the human. The ear drum is carefully removed from auditory canal, the bones carefully removed from drum, and it then is glued to the center of the membrane which is first applied, and which we will call the initial membrane.

While this is the first applied, it is the last through which sound passes; hence the central disc focuses the sound coming through all of the superimposed membranes. Where we have not been enabled to obtain the "ear drum," we find that a properly trimmed fish scale of about one-eleventh of the size of the membrane answers the purpose almost as well. We have also used thin metal plates of aluminum, or small discs of animal bladder.

Finally, any one can readily demonstrate the power of superimposed membranes to amplify sound. There is open to the investigator a field as broad as nature can make it, from which rare and unmistakable results may be obtained. Any animal tissue, any fabric or element capable of tension, can be used, the effects of almost any chemical substance tested. We are driven to the belief that every substance in nature has its own individual tone, which can be tested in the construction of sound boxes now used upon talking machines. Most of our results were obtained upon the gramophone, its vibratory causes are so pronounced.

There is no doubt to the writer's mind that the time will soon come when the talking machine will be far more than an interesting toy, but will assume its true position of truthfully perpetuating and crystallizing sound, not only for the amusement of the world, but for the more perfect education of the same.

There is no doubt to my mind that just as soon as the recording means now used upon phonographs, etc., are more simplified, the recording and the reproducing agents will so truthfully record and reproduce all sounds submitted to them as to give them absolute value. To-day the truthful quality in voice production can be recorded and reproduced.

Certain it is that a field is now open for experimentation, and the capacity of superimposed layers of substances to augment sound and interpret quality can be tested. In any event, it is not now confined to single elements of unvarying composition, but the entire round of all substances capable of tension, competent to be treated with chemicals, oils, etc., can be intelligently tested and their merits established. That superimposed membranes competent to be placed in similar phases will augment sound will be found to have been demonstrated, and it now remains to see to what extent the truthful interpretation of sound can be accomplished.

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**Ergot in the Treatment of Malarial Fevers.**—There are cases of chronic intermittent fevers with large tumefactions of the spleen which, after having resisted the action of quinine, arsenic, methylene blue, and eucalyptus, are benefited by ergot. When enlargement of the spleen is not old and not firmly established, the contracting effect of ergot is noticed within a reasonable length of time, and the attacks disappear before the diminution in the size of the spleen is very marked. Though temperatures remain after the employment of the ergot, as a rule, chills are not noted. The plasmodia do not disappear from the blood so rapidly as they do after quinine when the latter is effective. An experience extending over forty years, in which he has used ergot in many instances, justifies him in asserting that there are many cases of chronic malaria, apparently intractable that get well with ergot. It is often desirable to combine the ergot with quinine or arsenic.—A. JACOBI in *Albany Medical Annals*.



## LONDON CORRESPONDENCE.

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**The Lepers of Robben Island.**—At a recent social meeting in connection with the Medical Graduates' College and Polyclinic, Mr. Jonathan Hutchinson, in a short lecture under the title of "The Story of Robben Island," gave a pathetic account of the miseries of a leper establishment. There were, he said, at present more than five hundred lepers compulsorily detained on this island, and they were there not for treatment, but as prisoners for life in order to prevent the supposed risk of contagion. He said the college had a standing committee engaged in the investigation of the subject, and although he admitted professional opinion was not unanimous, he avowed his own conviction that it was a disease produced by food and not by contagion. He regarded the detention of these poor creatures in Robben Island as a cruel injustice. He had taken this topic, he said, in order to give a specimen of the kind of work in which the college was engaged. Its objects, he asserted, were not restricted to London or to Britain, but were international and world-wide. It aimed at the development of medical and sanitary knowledge for the benefit of the human race.

**The Royal College of Surgeons** will celebrate its centenary at the end of July, and the arrangements for the festivities are being made. On July 26th Sir William MacCormac, the president, will deliver an address in the theater of Burlington House, and he will have many fresh experiences for the ears even of doctors. In the evening a festival dinner is to be held in the great hall of Lincoln's Inn, and on the following evening the Lord Mayor gives a reception at the Mansion House.

**Hygiene of Railway Carriages.**—The German Health Department, which has for some time been turning its attention to contagious diseases, has now resolved upon a great reform in the matter of railway carriages, which it believes are to a certain extent responsible for the spread of the germs of tuberculosis. The ceilings of the carriages are to be varnished, and all corners likely to harbor dust are to be abolished. The tapestry is to be of plain material, and devoid of embroidery, the favorite haunt of dust and microbes. The cushions will be movable so that they can easily be changed from carriage to carriage; this will enable the floor to be properly kept clean. Sleeping carriages will be disinfected after each journey.

**Acute Peritonitis Spontaneously Cured.**—Nossal reports a case of an individual who was brought to the hospital in a grave state of collapse, the stomach being distended and containing free liquid. The patient was suffering during four days from pains and colics. It was supposed that there existed a peritonitis caused by perforation beginning at the appendix. However, taking into consideration the state of collapse of the patient, it was decided not to make an operation, and against all expectation the patient recovered after a week's time. After eight days, however, the

hepatic swelling increased, fever set in, and violent pains were felt in the hepatic region. An incision parallel with the costal line was made, which produced the elimination of about seven liters of a purulent fecaloidal liquid, coming from an abscess which was situated between the liver and the diaphragm. Later on, when the temperature was rising, we observed a swelling of the top of the bladder, but this swelling disappeared spontaneously. The patient has completely recovered.

**Nasal Polypi Treated by Radical Method.**—At the May meeting of the London Laryngological Society Dr. Lack showed two cases of nasal polypi treated by a new radical method, together with microscopic sections of portions of the bone removed. One of the cases, a woman, had suffered from unilateral polypi with purulent nasal discharge of three months' duration.

Under general anæsthesia the polypi had been removed and a large cavity excavated in the lateral ethmoidal region. Now, eighteen months since the one operation, a dry healed cavity can be seen in this region, and there has been no return either of the polypi or of the discharge. The second case had suffered for over two years with bilateral nasal polypi, and in spite of frequent operations the nose had never been clear. Under ether numerous large polypi with much degenerating mucous membrane, and numerous crumbling fragments of bone were removed six days previously. The patient now felt better and clearer than he had for two years. There were still a few fleshy projections to be seen in the ethmoidal region, but Dr. Lack regarded these as true granulations, and thought that they would shrivel up without further treatment. The microscopic sections of the bone removed everywhere showed appearances of rarefying osteitis, which Dr. Lack believed to be the cause of the polypi, and to explain their tendency to recurrence.

**Notes on Surgical Cases from South Africa.**—The war in South Africa has developed many curious and interesting surgical cases. Your correspondent reports the following from the letters and notes of Alfred Fripp, surgeon on the Imperial Yeomanry Hospital:

A young officer came in the other day with eight wounds. One bullet had perforated his lumbar region, another had perforated his thigh. In neither case did any harm result. A piece of shell had blown a piece out of the inner aspect of both thighs and three pieces off the bottom of his scrotum, while a third bullet had lodged in the cruro-scrotal fold, whence it dropped out as he was standing up to be examined! He has left the hospital apparently in no way the worse for his narrow escapes.

Another extraordinary case was that of a man in whom a bullet entered the right thigh on the inner aspect, about two inches below the cruro-scrotal fold. The leg was skiagraphed, but nothing could be seen of the bullet. An abscess developed in the other thigh at about a symmetrical position to the entrance wound. It was incised and the bullet found, and the finger could then retrace the track of the bullet across the front of the bodies of the two pubic bones to the wound of entrance.

A man was shot while his right hand was hanging in front of his abdomen, the bullet tunneling the radius without doing any harm, and then piercing the abdominal wall two inches above the middle of Poupart's



ligament; it emerged through the middle of the dorsum ilii. When admitted he presented no abdominal symptoms whatever, but we kept him in bed and on restricted diet so as to be on the safe side, for I had seen at Wynberg a similar case in which, a couple of weeks after the receipt of the wound, a hard, tender swelling developed in the right iliac fossa, which, as there was considerable pyrexia, was taken to be an abscess. It was incised, and proved to be a large hæmatoma. Our patient was not long before he developed a swelling in the cæcal region. This swelling was neither tender nor painful, nor was his alimentary canal in any way upset. He developed a high temperature every night, but we had great difficulty in persuading him that he was ill and in getting him to let us do anything. On incision the swelling proved to be a huge fæcal abscess, and for two days all his fæces poured out through the incision. This distressing symptom suddenly ceased and the wound proceeded to heal up straight away in a rapid and satisfactory manner. We have had three or four other instances of perforations through the iliac and cæcal region that have presented no symptoms at all.

In another case the pelvic bones were shot through lower down. The entrance wound was behind, just two inches below the posterior superior spine and two inches to the left of the middle line; and the exit wound was just to the right of the middle line in front, under or through the edge of the descending ramus of the pubes. No sign whatever of damage to the bones or to the alimentary canal or the blood vessels, the peritoneum, or the bladder resulted; but there was sufficient damage to the cords of the sacral plexus to cause paresis of the gastrocnemii, and an area of anæsthesia over the heel, indicating, I take it, damage to the first sacral nerve. The anæsthetic area shortly became hyperæsthetic, and is now rapidly returning to normal.

One thing which I have not seen noted in the medical papers, but which is being borne in upon us more and more, is the rapidity with which the effects of general anæsthetics pass off in this climate. Perhaps it is due to the skill of our anæsthetists, but the fact remains that it is much rarer to see any vomiting or nausea after operations out here than it is at home; and the rule is to find the patient so well that within an hour of his being put back to bed he is asking to be allowed to smoke or even to get up.

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**Treatment of Enteric Fever.**—As a rule, treatment was expectant, and consisted of liquid diet, absolute rest, and attention to symptoms. The routine medicine was dilute hydrochloric acid with syrup of orange and water. Excessive fever was treated by tepid, cold or iced-sponging. Ice-cradling was also employed with less visible benefit. One case treated by raising the bed clothes on a cradle away from the patient died of double pneumonia. Antipyretic drugs were not frequently used, with the exception of quinine, which appeared beneficial in some cases. Of antiseptics, turpentine was most frequently relied upon, and was taken well in most instances. The same cannot be said of naphthalene, which frequently caused sickness. In at least one case the pills in which it was contained were persistently passed in the motions unaltered. Antityphoid serum was used in a few cases without visible effect. In one of these cases a relapse subsequently recurred.—DR. BOSANQUET in *British Medical Journal*.

## MEDICAL NOTES.

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**The Life History of the Malarial Parasite.**—W. S. Thayer, in a paper read before the County Medical Society, and reported by the *Medical News*, states that the three methods by which the malarial parasite is suspected of being transmitted are by the air, by drinking water, and by the bite of the mosquito. The evidence points strongly to the latter. In the city of Baltimore malaria is not found, and the anopheles is not present. This is the mosquito which is suspected of carrying the parasite. In the suburbs malaria is found and so is the anopheles. In a town of North Carolina which was practically abandoned by white people on account of malaria, many specimens of the anopheles were found, while the culex, a harmless species, was not found. Eight miles distant from this town the culex was found, but not the anopheles, and the region was free from malaria. There is no positive evidence of any other method of transmission. Cases of spring malaria are considered to be relapses. The work to be done now is to determine the habits of the anopheles mosquito, its presence in given localities, its breeding-places, and the best methods of extermination.—*Western Medical Review*.

**Sanitary Report from Central and South America.**—In every coast town of Central America and Mexico there are occasional deaths from perniciousa. (This word, perniciousa, is the equivalent to the terms malignant malaria, hemorrhagic malaria, and chagres.) During certain seasons of the year it becomes epidemic. The average mortality is over sixty per cent., and at times it is higher. The initial symptoms of an ordinary case of perniciousa and those of yellow fever are very much alike, and the average coast doctor is not able to differentiate them. I do not deny the prevalence of the perniciousa on the coast, but I am sure that many of the so-called cases of perniciousa are yellow fever. From a quarantine standpoint I would consider all coast towns wherein perniciousa was prevalent as infected, and would keep them quarantined until the fever was thoroughly investigated by responsible physicians.

The prevalence of chagres and yellow fever on the Isthmus of Panama during the construction of the canal by the French should be borne in mind should the United States government undertake to build this canal.

There is an infected territory from ocean to ocean, and the importation of a number of non-immune workmen would be the signal for an outbreak of an epidemic of yellow fever. The yellow-fever infection is there, and the chagres will come when the excavations commence. The whole isthmus should be disinfected before any workmen are imported, and a thoroughly equipped, strictly enforced maritime quarantine maintained at Panama and Colon. This should be done not only for the protection of the army of workmen that will be necessary for such an undertaking, but for the protection of the infectable states that will be in direct communication with the isthmus just as soon as timber and supplies are needed for the construction of the canal.

The route of the Nicaraguan canal is not infected with yellow fever,



and there is no history of any infection having been in the country for many years. There should be suitable quarantine stations maintained at each end of the canal, and they should be the first things constructed. It matters not which route is selected, there will be a rush of people from all over Central and South America, coming from infected localities, and bringing the infection with them.

With the exception of the spasmodic attempt in Costa Rica last summer, there has never been any attempt to suppress yellow fever in any of the republics of Central or South America or Mexico. When the fever became epidemic in Alajuela during the past season, it was creeping too close to the capital for comfort. All of the wealth, the aristocracy, the politicians, and the government officials live in the cities in the high altitudes of the interior, and do not pay much attention to the coast towns. The coast towns and ports are generally the unhealthy localities, and the people of the high lands dread to even pass through them on their way to other countries. This fear of the coast fever accounts for the indifferent class of physicians furnished by the governments at the ports.—*Public Health Reports*, June 15th.

**Serum Diagnosis of Typhoid Fever.**—William G. Savage, in the *Clinical Journal* of May 2, 1900, says that the so-called Widal test depends upon the clumping and cessation of movement in a broth culture of the typhoid bacillus when seen in a hanging drop. We cannot say in every case where clumping or cessation of movement occurs that the patient from whom the blood was taken is suffering from typhoid fever. Sometimes the bacillus typhosus in a broth culture will clump spontaneously. This source of error is easily eliminated by examining the culture before the serum is added. The cause of this spontaneous clumping is not known. Another source of error is where an examination is being made for suspected typhoid and the disease may be either influenza, anemia, or some other condition easily confounded with it. In such cases the patient may have had typhoid fever years before. It is claimed that the Widal test may be obtained years after the infection. Errors in such cases are difficult to avoid.

Normal serum, if diluted slightly, say one in ten, may in certain cases cause some clumping. If the serum be further diluted and again examined with typhoid broth, these changes do not take place. The writer believes that if the serum be sufficiently diluted, clumping with normal blood never takes place. A dilution of one in thirty or one in fifty, or even higher, is necessary to prevent failures from this source. The sera of diseases other than typhoid are cited by some writers to give positive reactions. Cabot points out that scarcely any two observers find these pseudoreactions in the same diseases, and in all probability, with a careful technique and perfect dilution of the serum, they never take place.

The blood in enteric fever does not always give a characteristic reaction. This may be divided into three classes: (a) The test may be made too early in the course of the disease; the reaction is generally obtained about the end of the first week. (b) There are cases in which the reaction is known to intermit; for example, it is present one day, absent the next, and again present the next day or in a few days. These cases are

probably very infrequent and do not seem to be a common cause of error. (c) A few cases of proven enteric fever yield no serum reaction throughout the disease.

The first two causes of absence of reaction obviously teach that in negative cases we should repeat the examination of the blood at a subsequent date. A negative reaction, though not so valuable as a positive one, is yet of great value. Efficiently performed, the test is correct in from ninety to ninety-five per cent. of the cases.

In collecting the blood for making an examination, it may be done by allowing a drop to dry on a glass slide, or it may be drawn into a capillary pipette and the ends sealed. The latter permits of the serum being separated from the blood without the admixture of corpuscles, thus making it somewhat more accurate. If the dried blood is used it is mixed with a little water or inert fluid, and a small quantity is taken up in a loop.

Care should be taken in obtaining the typhoid bacillus, as those which have a tendency to clump spontaneously are valueless. Some cultures of the typhoid bacillus give a prompt reaction and others do not. The author describes one case in which the test was made with four different cultures of the typhoid bacillus. In one a well-marked reaction was obtained, in another it was doubtful, and in the remaining two there was no reaction. He uses a culture of agar from two to six weeks old kept at room temperature. From this a tube of sterile broth is inoculated and grown at 37° C. This culture should not be more than twenty-four hours old if grown at a high temperature.

The serum diagnosis of typhoid may be carried out without the aid of a microscope by what is known as a sedimentation method. This, by some writers, is considered even more valuable than the microscopic test, and is performed by diluting the serum, which for this purpose must be obtained in capillary tubes, with twenty-four parts of normal saline solution, and then added to equal parts of a fresh broth culture of the bacillus typhosus. If at the end of twenty-four hours the solution shows a uniform turbidity, the reaction is negative; if, on the other hand, well-marked plugs are seen at the bottom of the fluid or along the sides of the tube, the reaction is positive. The method requires no watching, but performs itself.—*Medicine*.

**On Malaria.**—M. Lühe, demonstrator in Zoology at Königsberg ("Centralblatt f. Bakteriologie"), gives a general survey of the results of recent investigations on malaria. He starts with the theoretical considerations, the experimental proof of which has cleared up the cycle of evolution of the malaria parasite, without attempting definitely to classify the parasite beyond stating that its relationship to the coccidia is a close one. Manson's mosquito theory he regards as evidently the outcome of analogical reasoning based on his (Manson's) previous discovery that the larvæ of the *Filaria sanguinis hominis* underwent certain developments in the alimentary canal of the mosquito. Manson's theory is thus summed up by Lühe: The mosquito female, which alone sucks blood, takes into its stomach some infected human blood. It lays its eggs on the surface of some water, and there dies; its body is disintegrated in the water, in which parasites are thus set free. Man becomes infected by drinking



the water thus charged with malaria parasites. Sternberg modified the theory thus: The *plasmodium malariae* lives naturally on water plants; from them the mosquitoes become infected by sucking their natural food, the juices of these plants. Sternberg also leans to the belief that the mosquito is a necessary factor in the development of the plasmodium, and that man is but an occasional and as it were accidental factor. Bignami's inoculation theory is not essentially new; the belief that malaria is inoculated by mosquitoes is a wide-spread and ancient popular belief in Italy as old as the Romans. Like Manson, Bignami believed in a stage in which the parasites lived outside any host, and his (Bignami's) theory differs from Manson's in that he believed that the parasites in this free living phase infected larval mosquitoes which, when adult, infected men by means of their proboscis. The parasites escaped again in some way from the human body, and the water thus became infected.

*The Alternation of Hosts of the Malarial Parasites.*—Ross found that the parasites underwent further developmental changes in the alimentary canal of the mosquito. Ross studied for comparison the *proteosoma* of birds and parasites kindred to the *plasmodium malariae* of man, and found that mosquitoes that had sucked blood from birds infected with *proteosoma* soon afterwards presented in the wall of their intestine peculiar pigmented cells which he concluded to be a phase in the evolution of the parasites. He found further evidence of the parasitic nature of these pigmented bodies, for they developed into cysts in the intestinal wall, and in these cysts myriads of rod-like buds (germinal rods) developed and escaped into the body cavity of the mosquito, and thence into the salivary glands. Ross found that a previously healthy bird became malarious—*i. e.*, in its blood the *proteosoma* was found—five to nine days after being bitten by a mosquito which he had kept for about nine days after it had sucked blood from an infected bird. Ross thus proved this for bird malaria, and established a probability that a similar rôle would be played by the mosquito in human malaria.

Italian observers—realizing that the term mosquito is used to include many different species of gnats—set to work to ascertain what species served as intermediary in human malaria. Grassi worked on Bignami's theory, and without knowledge of Ross' work. The common gnat, *Culex pipiens*, could be excluded because it was absent in some malarious districts. *Culex pencilarius* and *Culex malariae* (so-called) were similarly found to be innocent. Grassi found that in every Italian malarious district *Anopheles claviger* was present. Bignami experimented by allowing various species of mosquito to bite subjects previously free from malaria. Positive results were obtained only when *Anopheles claviger* was used; in one experiment the pernicious, in another the tertian form of malaria resulted. Grassi, working with Bastianelli and Bignami, proved that the *plasmodium malariae* of man underwent in *Anopheles* the same process that Ross had observed in regard to *proteosoma* of birds. Grassi also found that other species of *Anopheles* (*A. Superpictus*, *bifurcatus*, and *pseudopictus*) were able to play the same part as *A. claviger*; and further, that the malaria parasite of birds was not carried by *Anopheles* but by *Culex pipiens*, and that the bite of one infected mosquito sufficed to convey the infection to a previously healthy bird.

This review of the subject by a biologist is of much value in the present state of our knowledge of malaria. Lühe gives details of the structure of the phases of the parasites within the mosquito, and other interesting biological data for which the reader is referred to the original paper.—*Exchange*.

**The Justus Blood Test for Syphilis.**—This test is based on the observed fact that single inunctions of mercury in all untreated cases of secondary, tertiary and congenital forms of syphilis cause reduction in the hemoglobin, due to the sensitiveness of the red blood corpuscles to the action of the drug, while in non-syphilitics no reaction follows. Justus states that this reduction follows intravenous and subcutaneous injections as well as inunctions, and that it amounts to from ten to twenty per cent. The administration by the mouth produces no effect on the blood. He reports more than three hundred cases of syphilis which gave a positive reaction, and on very many control cases which were negative.

Cabot found the reduction in two negative cases. Justus found the sign in thirteen out of sixteen cases in which only a fresh chancre and inguinal adenitis were present. It is agreed by both Justus and Cabot that the latent cases and cases which are subsiding, either spontaneously or under treatment, do not respond to the test.

Jones (*N. Y. Med. Jour.*) reports thirty-five syphilitic and eighteen control cases, and from his observation states the Justus test has a value in the recognition of doubtful cases of syphilis, although it is not infallible. Moreover, the test often fails in two classes of syphilitic cases in which a diagnosis is especially desired—viz., in latent cases and early chancre, and sometimes at the beginning of the secondary stage.

**New Cure for Diphtheria.**—It is reported from Santiago de Cuba that the leading physicians have found a radical cure for diphtheria in the initial application of paraffin.—*Exchange*.

**Pseudo-Diphtheria Due to Vincent's Fusiform Bacillus.**—Vincent (*Arch. de laryngol*, etc., January, February, 1899) first called attention in March, 1897, to a form of membranous sore throat, which would readily pass for diphtheria. The condition is benign, and usually recovers in a fortnight. The bacillus was a hitherto unrecognized species, and its existence has since been confirmed by numerous investigators. Some sixty cases have already been placed upon record; it is thus seen to be a common enough affection. Bernheim has described a form of ulcerous stomatitis due probably to the same bacillus. Ulceration appears to be an essential feature in the tonsillitis which constitutes the angina, being evident after removal of the false membrane; the ulceration is so marked that the name "chancreiform amygdalitis" was given the disease by one investigator. As described by Vincent, the affection appears to be severe but relatively localized, as fever and adenopathy are the principal phenomena aside from the throat lesions.—*Med. Review of Reviews*.





**A Pocket Text-Book of Chemistry and Physics.** By WALTON MARTIN, M. D., and WILLIAM H. ROCKWELL, JR., A. B., M. D., of the College of Physicians and Surgeons, New York. In one 12mo volume of 366 pages, with 137 illustrations. Just ready. Cloth, \$1.50, net; flexible red leather, \$2.00, net. Lea Brothers & Co., Philadelphia and New York.

This compact little book is attractive and useful for medical students. It deals with subjects with which the student should be well acquainted prior to his *entree* into his medical course. It therefore will be of use to him in brushing up his knowledge of chemistry and physics, than which there is no more indispensable thing for him to be conversant with in the whole medical college curriculum, if he hopes to acquire a good insight into the ways and means of his craft. Chemistry is well gone over in the book, and the student who knows its contents will be able to pass muster readily. The problems of physics in their relationship to medicine are carefully detailed. The book is worthy of perusal by live medical men.

**A Text-Book of the Practice of Medicine.** By JAMES M. ANDERS, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia, etc. Illustrated. Third edition, revised. Prices, cloth, \$5.50, net; sheep, half morocco, \$6.50, net. Philadelphia: W. B. Saunders. 1900.

Anders' Text-book of Medicine is beginning to be recognized by teachers as a standard book for the student of medicine. It is an improvement over many of the text-books on similar lines that are now on the market. This improvement substantially consists in being a dissertation on this important branch, written in accordance with the most modern theories and conclusions in medicine of to-day. It takes in the whole field of medicine, and in addition takes up departments really new, such as splenic anemia, glandular fever, etc. The reasoning powers of the author are excellent, his experience has been varied, and consequently the student who reads the book will be placed in the most advantageous place for acquiring a scientific knowledge of the practice of medicine.

**A Text-Book of Materia Medica, Therapeutics and Pharmacology.** By GEORGE FRANK BUTLER, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc. Third edition. Thoroughly revised. Philadelphia: W. B. Saunders. 1899.

Prof. Butler has given us in this third edition of his work a good account of materia medica and therapeutics. It is a book that will continue

to enlist the attention of the medical men of the country, as it has done in the past. The first part of the book takes up some general considerations about the classification of drugs, the administration of medicine, etc. Then follows the drugs in rational order and classification. The book is thoroughly up-to-date—an essential excellence in a work on this subject. The text is clothed in Dr. Butler's delightful style of writing. We feel confident that it will gain many new readers as time rolls on.

**Diseases of the Genito-Urinary System.** A Thorough Treatise on Urinary and Sexual Surgery. By EUGENE FULLER, M. D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School, etc. Price, \$5.00, net. New York: The MacMillan Company. London: MacMillan & Co., Ltd. 1900.

This book is certainly worthy of a favorable review. It deals with the subject of genito-urinary diseases from the genito-urinary surgeon's standpoint, and not from the point of view of the "venereal specialist," so-called. It takes up diseases of the different urinary and sexual organs, and goes into each one with a good description of the pathology and treatment. It certainly expresses all that is good, all that is to be recommended for use by good genito-urinary specialists. The first part particularly excites attention, as it deals in an admirable manner with the subject of urinary bacteriology, a branch which has been undeservedly slighted in other volumes on genito-urinary diseases.

**A New Cyclopedia of Practical Medicine and Surgery.** Edited by GEORGE M. GOULD, A. M., M. D., and W. L. PYLE, M. D. One volume, large square octavo. Full sheep or half morocco, \$10.00; with thumb index, \$11.00; half russia, with thumb index, \$12.00.

This work, edited by Drs. George M. Gould and W. L. Pyle, two of the most scholarly men in the medical profession, more than fulfills the editors' idea of furnishing a comprehensive cyclopedia in a condensed form.

It is filled with concise articles covering the whole range of the medical and surgical sciences. It is published in a convenient form, and for all general purposes is superior to the older works. The subjects are considered in a practical way, and while the articles are not long, they are complete in themselves. We advise our readers to buy this book. It is worthy of a place in every medical library.

**Progressive Medicine—Volume II., 1900.** A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 401 pages, with 81 engravings. Lea Brothers & Co., Philadelphia and New York. Issued quarterly. Price, \$10.00 per year.

This is the best volume of "Progressive Medicine" which has reached us. Dr. John G. Clark reviews the progress of gynecology during the past year. Dr. Jackson has an excellent department of ophthalmology. The



best chapters of the book, however, are by Dr. Stengel on general medical subjects.

**King's Manual of Obstetrics—New (8th) Edition. A Manual of Obstetrics.**

By A. F. A. KING, M. D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. In one 12mo volume of 612 pages, with 264 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The new edition of this work shows forty-one new engravings, and many of the other features of the book are equally improved. It is a valuable book both for the student and practitioner.

**Simon's Clinical Diagnosis—A Manual of Clinical Diagnosis by Microscopical and Chemical Methods.**

For Students, Hospital Physicians and Practitioners. By CHARLES E. SIMON, M. D., Late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. In one very handsome octavo volume of 563 pages, with 136 engravings and 18 full-page colored plates. Cloth, \$3.50, net. Lea Brothers & Co., Philadelphia and New York.

This is the third edition of Dr. Simon's popular book, and is greatly improved in its present form. The full-page colored plates are worthy of special commendation. The author aims at precise diagnosis, and gives the best defined instructions for laboratory work. The chapters on blood examination are particularly good, although the other subjects, "Chemistry of the Urine," "Cerebro-Spinal Fluid," "Gastric Juice," etc., etc., are ably considered.

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**Antityphoid Inoculations.**—A question was recently asked as to the measure of protection which had been conferred upon soldiers by the inoculations introduced by Prof. Wright. From figures just published it appears that out of 11,000 men brought under observation 2835 were treated, and most of these were young and unseasoned. Of these only twenty-seven, or 0.95 per cent., have contracted enteric fever, and five have died therefrom. Of the uninoculated 213, or 2.5 per cent., with twenty-three deaths. From an answer given in the House of Commons, the above figures do not refer to soldiers sent out to South Africa. Statistics have been called for from every station at home and abroad.—*Treatment.*

## MEDICAL SOCIETIES.

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**The Atlantic City Meeting of the American Medical Association.**—Several thousand members of this association spent a part or the whole of the first week of June, both pleasantly and profitably, at Atlantic City, New Jersey. The meeting, both scientifically and socially, was one of the most successful in its history. The atmospheric and climatic conditions and the hotel accommodations, as contrasted with the preceding meeting at Columbus, Ohio, almost prejudice us against any meeting of this association being held in an inland city, unless, as was fortunately arranged for the next meeting, a city in the extreme North should be selected.

The only objection offered was that the halls for the several section meetings were so widely scattered. The purposes of the meeting, particularly as regards the interests of the general practitioner, would be better subserved were it possible at future meetings of the association to combine all of the sessions under a common roof. We do not know of this having been accomplished at any previous meeting with the exception of the session held some years ago in the Exposition Building in St. Louis. It is to be hoped that our St. Paul friends, who will have the responsibility of next year's entertainment of the association, will be able to realize their expectations of making the fifty-second annual meeting the most pleasant in the history of the association.

The section meetings, as well as the general session, were well attended. The papers presented, with few exceptions, were much better than usual. The president's address is worthy of the attention of every physician in this country. A special feature of the meeting was an exhibit of pathological specimens, and a consensus of opinion was so favorable to this innovation that it will probably be made a permanent feature of the meetings.

The officers elected were: President, Dr. Charles A. Reed, Ohio; First Vice-President, Dr. A. W. Calhoun, Georgia; Second Vice-President, Col. Woodhull, U. S. A.; Third Vice-President, Dr. Philip Marvel, New Jersey; Fourth Vice-President, Dr. E. E. Quine, Illinois; Secretary, Dr. George W. Simmonds, Illinois; Assistant Secretary, Dr. A. M. Davis, Minnesota; Treasurer, Dr. Henry P. Newman, Illinois; Librarian, George Webster, Illinois; Trustees, Miles F. Porter, Indiana; E. Fletcher Ingalls, Illinois; W. L. Rodman, Pennsylvania; Joseph M. Matthews, Kentucky; Judicial Council, James R. Guthrie, Iowa; G. B. Mills, Tennessee; R. C. Moore, Nebraska, Ida J. Herberger, District of Columbia; John D. Roberts, Pennsylvania; Charles L. Rodman, Connecticut; S. L. Jeproei, West Virginia; Oration on Surgery, John A. Wyeth, New York; Oration on State Medicine, John W. Kober, Denver; Oration on Medicine, N. S. Davis, Jr., Illinois.

**American Medical Editors' Association.**—The annual meeting of medical editors was held at Atlantic City, in conjunction with the meeting of the American Medical Association. On the evening of June 4th the annual banquet of the association was given at Hotel Dennis. Toasts were



responded to and speeches made by a number of prominent members and invited guests.

Considerable interest was manifested in the business session of the association, and it was decided to make the business session the leading feature of future meetings.

Officers elected for the ensuing year are: Drs. Alexander Stone, St. Paul, President; Chas. F. Taylor, Philadelphia, Vice-President; S. W. Kelley, Cleveland, Treasurer; O. F. Ball, St. Louis, Secretary.

The next meeting of the association will be held in St. Paul.

**At the meeting** of the Indian Territory Medical Association, held at Wagoner, June 19th-20th, the following officers were elected for the ensuing term; President, LeRoy Long, Caddo; Vice-President, D. Gardner, Lehigh; Second Vice-President, J. N. Fain, Wagoner; Secretary and Treasurer, Fred S. Clinton, Tulsa.

The next meeting will be at Muskogee in December.

**Iowa State Medical Society.**—The forty-ninth annual meeting of this society was held in Des Moines, May 18th. Davenport was selected as the next meeting place, and the following officers were elected for the ensuing year: President, R. E. Cundiff, Sioux City; First Vice-President, J. M. Ristine, Cedar Rapids; Second Vice-President, Frank Porterfield, Atlantic; Secretary, J. W. Cokenower, Des Moines; Assistant Secretary, Geo. E. Decker, Davenport; Treasurer, George Skinner, Cedar Rapids.

The membership was increased to 800.

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**The *Medical Mirror***, of St. Louis, offers \$1,000 in prizes, to be distributed as follows: \$500, \$200, \$100, and four prizes of \$50 each. The following prominent gentlemen have accepted appointment on the committee of awards: Dr. Wm. Osler, Baltimore, Md.; Dr. Geo. F. Butler, Chicago, Ill.; Dr. A. R. Kiefer, St. Louis, Mo.; Dr. C. Lester Hall, Kansas City, Mo.; Dr. H. R. Hall, St. Louis, Mo.; Dr. Lewis E. Lemen, Denver, Colo.; Dr. Jos. M. Mathews, Louisville, Ky.; Dr. W. W. Grant, Denver, Colo.; Dr. Thos. Hunt Stucky, Louisville, Ky.; Dr. Hugo Summa, St. Louis, Mo., and Dr. Walter Wyman, Washington, D. C. Entries close October 1st and the award is made February 1, 1901, giving the contestants four months in which to prepare their papers and to include clinical reports.

The points for consideration in each paper, with a percentage attached, will be as follows: General considerations of the subject, 10; pathology, bacteriology and diagnosis, 20; clinical records, 20; prognosis and treatment, 35; conclusions with *resume*, 15.

The editor of the *Medical Mirror* hopes to develop from this discussion the fact that much more can be done for tubercular patients than the average practitioner believes, and he is aiming to elicit any facts which may be of value in the treatment of this disease.

## THERAPEUTICS.

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**Methylene Blue in Malaria.**—Smithwick, in *Merck's Archives* for February, 1900, from the reports of others and his own observations, has reached the following conclusions in regard to this drug:

1. Methylene blue is a perfect succedaneum for quinine, and may be given whenever the latter drug is indicated in the treatment of malaria of every form and under all conditions, with the same confidence that has always attended the administration of quinine.

2. Patients need not be selected on account of idiosyncrasies, as no bad effects ever follow the use of methylene blue, if given intelligently.

3. It is the remedy to use in malaria with hematuric complications, as it acts in a twofold manner.

4. It is the remedy to be given in malaria occurring during the pregnant period, as it has no oxytocic effect and will cause a freer action of the kidneys, which is also beneficial.—*Therapeutic Gazette*.

**Summer Diarrhœa in Infants.**—As summer diarrhœa is so apt to be of a putrefactive nature, all agree upon the necessity of completely clearing out the gastro-intestinal tract as a necessary start in treatment. In most cases when the physician is called, the stools are loose and there may be vomiting. By at once stopping all milk the stomach is soon emptied, and the principal indication is to clear out the bowel. If vomiting continues, drafts of tepid water may be administered which, when rejected by the stomach, washes out that organ. I do not believe it is often necessary to wash out the stomach with a tube. Sometimes, when there is excessive irritation of the stomach, with much production of mucus, one washing out, however, will give relief. I usually employ tablet triturates of calomel, one-tenth of a grain every hour, until six or eight have been administered. These small doses act as a sort of a stimulant to the bowel, increase glandular activity, and usually effectively clear out the canal of its fermenting contents. The drug is also supposed to have some anti-fermentative effect. A good-sized dose of castor oil is also effectual, and is followed by a sedative effect on the mucous membrane. The drug that I have found most useful in the summer diarrhœa of infants is the subnitrate of bismuth, in large doses. As far as I have observed, the subcarbonate, salicylate, and subgallate of bismuth and betanaphthol bismuth have no decided advantage over the subnitrate, which is everywhere procurable.—CHAPIN.

**Constipation in Infants.**—Constipation in infants is the practitioner's bugbear. He recognizes the inadvisability of the habitual administration of laxative drugs to the young, but is often driven to countenance their use by the paucity of the resources of which he disposes. It is important to bear in mind that constipation in infants is due in large measure to the element casein, which, if it be present in milk in larger quantities than normal, as compared with the fatty elements, tends to interfere with the due performance of the digestive functions. A child fed on normal casein, but with a low proportion of fat, will probably be constipated. In breast-fed



children it does not follow that the proportions of casein and fat are normal, for the maternal supply may be faulty in this respect. Disturbances of health, especially in the direction of indigestion on the part of the mother, will necessarily be reflected in the composition of the lacteal secretion, as can be demonstrated by analysis. The first step, therefore, must evidently be to regulate the habits and life of the mother. She must be placed on a fresh meat, fresh vegetables, and freshly cooked fruit diet, with due provision for regular exercise and restriction in the matter of tea-drinking and other dietetic irregularities. This *regime* will diminish the proteid and increase the fatty constituents of the milk, and will go far to rid the infant of the tendency to constipation. Should it fail, the best treatment for the child is the administration of cream in doses of from one to two teaspoonfuls in warm water from time to time just before the periodical meal.—*Medical Press and Circular*.

**Nutrition in Severe Gastro-Intestinal Diseases.**—Dr. J. E. Thatcher (*Medical Century*) states that in the care of patients suffering with malarial fevers, and especially children, there comes a time when the question of what food should be given becomes one of the gravest importance. In a case of this kind in a baby, eighteen months old, in which extreme exhaustion existed after the subsidence of the fever, it was found very difficult to nourish the child, all food being refused or vomited. The case seemed almost hopeless, as the patient was apparently starving to death. A trial, however, was made of lacto-somatose, given in a mixture of equal parts of oat-meal water and cow's milk, which was well tolerated without nausea or vomiting. Improvement set in from the moment of taking the first dose of lacto-somatose. The preparation relieved the gastric disturbances, stimulated the digestive organs, and created a natural appetite and the power to digest other food. Under its continued use perfect recovery ensued.

**The Woodbridge Method of Treating Typhoid Fever.**—On the appearance of the earliest symptoms:

TABLET NO. 1.

R	Podophyllin .....	gr. $\frac{1}{100}$
	Hydrargyri chloridi mitis .....	gr. $\frac{1}{16}$
	Guaiacol carbonatis .....	gr. $\frac{1}{16}$
	Mentholi .....	gr. $\frac{1}{16}$
	Eucalyptol .....	m j

One tablet of the above formula should be given every fifteen minutes during the first twenty-four hours, and larger doses during the second twenty-four hours if found necessary, so that during this and the succeeding twenty-four hours there may be secured five or six full and free evacuations of the bowels during each of these periods. On the third or fourth day the following treatment should be begun:

TABLET NO. 2.

R	Podophyllin .....	gr. $\frac{1}{100}$
	Hydrargyri chloridi mitis .....	gr. $\frac{1}{16}$
	Guaiacol carbonatis .....	gr. $\frac{1}{4}$
	Mentholi .....	gr. $\frac{1}{16}$
	Thymoli .....	gr. $\frac{1}{16}$
	Eucalyptol .....	m j

One tablet to be given every hour or two.

## TABLET NO. 3.

R	Guaiacol carbonatis.....	gr. iij
	Thymoli.....	gr. j
	Mentholi.....	gr. ss
	Eucalyptol.....	m v

After three days capsule No. 3 is given, one every three hours, between which tablets (mostly) No. 2 are given, according to the effect upon the bowels.

There have been treated 7827 cases, with 150 deaths—or two per cent.—and a duration of a trifle over twelve days. These results prove that typhoid fever can be aborted.

They teach that it is amenable to curative treatment in all of its stages, and they go far toward proving that death and protracted illness are wholly unnecessary consequences of the disease.—WOODBRIDGE.

**Modified Woodbridge Treatment.—**

R	Hydrargyri chloridi mitis.....	gr. x
	Thymoli,	
	Eucalyptoli,	
	Salol.....	aa 3 j
	Guaiacol carbonatis.....	3 ij

M. div. in capsulas No. xx. Sig.—Give one every three hours.

—MULHERON.

**Poisoning by Corrosive Sublimate in a Pregnant Woman.**—M. D. Eder (*Lancet*) reports the case of a primipara, six months pregnant, who took by mistake thirty grains of corrosive sublimate in water. The lips, mouth, tongue and pharynx were much injured. When seen three hours after the accident there was pain in the throat and abdomen, vomiting and collapse. Large quantities of egg albumin in water were given, warmth applied, a quarter of a grain of morphia given hypodermically, and later hypodermic injections of ether were used. Diarrhœa with bloody mucus appeared the next day, but under the same treatment the patient recovered, being able to take solid food in about a month. No œsophageal stricture resulted. Three months later she was confined. There was terrible general œdema, which she said had been present nearly two months. A large male child was delivered by forceps, and an hour later a dead female child was born. The placenta came away of itself, the uterus contracted well, but the pulse was bad. Two hours later a terrible hemorrhage occurred, but was controlled by hot water and bimanual compression. Recovery was slow. No sample of urine was ever examined.—*Exchange*.

**Heart Tonics.**—Dr. I. N. Upshur, of Richmond, Virginia, discussed this subject before the Section on Materia Medica and Therapeutics of the American Medical Association as follows: He said that digitalis was an unsatisfactory and uncertain remedy, because its action could not be controlled. The same was true to a less degree of convallaria. Sparteine was of great service in weak and flabby hearts. Strophanthus was very much superior to digitalis. It was more prompt in its action and more permanent in its effects. When combined with strychnine it was a most valuable agent in fevers and weak states of the system. Atropine was of



especial value in cases of cardiac insufficiency accompanied by bronchorrhoea. Caffeine was of considerable service when the kidneys were affected. Strychnine was our most valuable and reliable heart tonic. If given before chloroform anæsthesia it prevented cardiac failure. It was invaluable in the case of a weak heart from any cause. Nitroglycerin was not a heart tonic. It was contraindicated in weak states of the system, and especially in surgical shock. It was a motor depressant, and its too free use was fruitful of harm. In the late stages of typhoid, opium seemed to have a true tonic effect on the heart. *Cactus grandiflorus* was useful in cases of rapid heart due to tobacco poisoning.—*Medical Record*.

**Administration of Gold in Combination with Arsenic or Mercury.**—The editor of the *Alkaloidal Clinic* (June, 1900) writes the following concerning the administration of the preparations of gold and arsenic and gold and mercury represented in the most perfected chemical and therapeutic form by arsenauro and mercauro:

The best effects are obtained by beginning with a moderate dose, pushing the remedy up to the verge of toleration, and keeping as near that point as possible for some time, depending on the case.

The limit of toleration is indicated by puffiness of the eyelids, abdominal pains and diarrhoea, vertigo, cerebral fullness, fever, frontal headache and tingling of the fingers. Gold and mercury cause salivation, but as a rule the symptoms of arsenic are first manifested. The susceptibility varies widely, some persons being unable to bear more than ten drops, while others will require eighty or more drops three times a day. These remedies, like all arsenical preparations, are most active if taken before meals, but if the dose tolerated is too small to exert a curative effect, or if the stomach is unusually refractory, which is very rarely the case, the doses may be given after meals; when, being mixed with the food, absorption is slower and goes on during the whole period of digestion.

Begin with five drops, in four ounces of water, three times daily, and add a drop to each dose every day till the signs indicate that the limit of toleration has been reached; then stop for one day, and resume with a dose three drops less than the highest reached. In such chronic maladies as syphilis, the remedy should be continued three months after the disappearance of all evidences of the affection. In diabetes there will probably be no evidence of improvement till the maximum dose has been maintained for a few weeks; and the medicine should be then gradually lessened about as it was increased. In phthisis the maximum should be maintained in like manner until the bacilli have disappeared from the sputa, and then the doses lessened somewhat more rapidly. In anemia, scrofula, and cachectic conditions in general, the administration must be regulated by the effect on the malady and on the composition of the blood, as shown by repeated laboratory examinations.

The range of these powerful agents is very wide, embracing the stimulation of the lymphatics to remove morbid matters, debris, redundant connective tissue, dying cells or those whose vitality is so impaired that they are beyond the likelihood of again becoming useful, and stimulating the anabolism into healthier, more active operation. They rake out the ashes and put on the blower, and unless the fuel is exhausted or the flame too low to revive, the fire soon glows again.

We wish to warn our readers against the several "solutions of gold and arsenic" put on the market as substitutes for arsenauro. We have seen several such substitute products and found them different, both chemically and therapeutically, from arsenauro. It is to be regretted that many pharmacists will substitute inferior and doubtful remedies on physicians' prescriptions, and we advise our readers to make it a point to *know* that their patients receive the genuine arsenauro.

## SURGICAL SUGGESTIONS.

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**Leather** can be readily molded for a splint to fit any limb by soaking for a few hours in water containing a tumblerful of vinegar to each quart. It is then molded and allowed to harden.—*Exchange*.

**Nicholas Senn** says that surgery must often be practiced, not as a matter of choice, but of necessity. Perhaps the best definition ever given of a surgeon is what Sir Spencer Wells said: "A surgeon is a physician who can operate." The physician of our country at this time is suffering from two great defects: physicians are too exclusively physicians, and surgeons are too exclusively surgeons. These defects must be remedied if our physician is to reach the highest standard of efficiency and utility.—*Western Med. Review*.

**Action of Iodoform on Normal Tissues.**—While the toxic effects of iodoform and its parasiticide properties have been frequently described, little is known concerning its action on healthy cells. Professors Cornil and Coudray have investigated this point by injecting iodoform oil into the peritoneum and knee-joint of dogs, etc., and examining the tissues after death, twenty-four hours or so later (*Semaine Medicale*, May 9th). They find that there is a marked destruction of endothelial cells, with slight diapedesis of leucocytes. If longer time is allowed to elapse after the injection it is noticed on the second and third days that a multiplication and considerable vitality of the cells have taken place—in the case of both cells of the serous surface and of the subserous tissue. Iodoform, therefore, determines an inflammation of a certain intensity, more or less analogous to that brought about by traumatism or by any aseptic irritating agent—*e. g.*, silver nitrate. Although iodoform acts as a bactericide, especially during its decomposition when iodine is liberated, this action is slow, and it appears probable that its most important effects are those arising from the modifications in the tissues above referred to. The new cell formation is unfavorable to the reproduction of microbes, and it is possible that such cells as the polynucleated, prismatic, etc., found by Cornil and Coudray in the neighborhood of the iodoform injected tissue, also act as phagocytes. All surgeons are familiar with the good results of iodoform injections in the treatment of tuberculous abscesses and suppurating sores generally. For the more efficient introduction of iodoform into long fistulous channels, Coudray advocates the use of iodoform suspended in chloride of ethyl in a spray form.—*Exchange*.

**Unique Cases of Rectal Surgery.**—Dr. Samuel G. Gant, New York, at the American Protologic Society reported the following cases. Case 1.—*Congenital Absence of the Coccyx and Lower Sacral Vertebra*: This case was referred to Dr. Gant to be treated for anal fissure. He was thirty years old and a very strong man. Examination revealed the absence of the coccyx and lower sacral vertebra which made the broad end of the bone stand out and easily noticeable through the skin because of the fact



that the tissues below it were drooped, making a concavity large enough to hold a goose egg. He had been that way since birth, but had suffered no inconvenience from it, having perfect control over his bladder and anus. The fissure was relieved by divulsing the sphincter, incising the rent, and stimulating it thereafter with a mild silver solution. Case 2.—*Stricture of Rectum in a Little Girl Eleven Months Old Caused by Swallowing an Open Safety-Pin*: The case is of unusual interest because of the child's age. At the time the pin was swallowed it caused considerable pain and suffocation. It was passed imbedded in a mass of fecal matter just one month later. Several days preceding this she suffered great agony and passed frequent and bloody stools. From this time on the child continued to have bowel trouble, suffering from constipation, occasional diarrhoea, and the discharge of pus, blood and mucus with the stools. Digital examination revealed a tight stricture three inches above the anus which appeared to be the result of inflammatory action and adhesions. It was easily dilated with first one and then two fingers. The ulceration was curetted, the rectum irrigated, and the little patient sent home. After-treatment consisted of stimulating applications and the occasional divulsion with the finger; this little patient was discharged cured in eight weeks.

As a rule, a surgically clean wound requires no drainage. The only exception is where the tissues have been so much bruised that excessive oozing may occur and cause a collection in some deep part of the wound, or where the operation leaves large spaces that cannot be obliterated by deep suture and firm pressure. In these cases drainage may be employed, but not for more than twenty-four hours.—*International Journal of Surgery*.

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**He Got the Place.**—Dr. McTavish, of Edinburgh, was something of a ventriloquist, and it befell that he wanted a lad to assist in surgery who must necessarily be of strong nerves. He received several applications, and when telling a lad what the duties were, in order to test his nerves he would say, while pointing to a grinning skeleton standing upright in a corner: "Part of your work will be to feed the skeleton there, and while you are here you may as well have a try to do so." A few lads would consent to a trial, and received a basin of hot gruel and a spoon. While they were pouring the hot mass into the skull the doctor would throw his voice so as to make it appear to proceed from the jaws of the bony customer, and gurgle out: "Gr-r-r-gr-h-gh! That's hot." This was too much, and, without exception, the lads dropped the basin and bolted. The doctor began to despair of ever getting a suitable helpmate until a small boy came and was given a basin and spoon. After the first spoonful the skeleton appeared to say: "Gr-r-r-uh-r-hr! That's hot!" Shoveling in the scalding gruel as fast as ever, the boy rapped the skull and impatiently retorted: "Well, jist blow on't, ye auld bony!" The doctor sat down on his chair and fairly roared, but when the laugh was over he engaged the lad on the spot.—*Current Literature*.

## NEW REMEDIES.

**Ergo-Apiol (Smith).**—A well-known St. Louis physician gives the following report of his experience with ergo-apiol (Smith):

“For amenorrhœa, dysmenorrhœa, and scanty menstruation I know of no remedy so effectual and yet so free from nauseating and toxic effects as ergo-apiol (Smith). Unlike most other remedies for these complaints, it requires only small doses, and these not for an extended period of time, to bring about a healthy action of the generative organs without nausea, two very essential features of an emmenagogue. The reason for this is evident after a thorough knowledge of the constituents has been obtained, and one can notice at a glance, from the therapeutic value of these ingredients, the reason for the efficacy of the remedy. It contains the true principle of apium petroselinum, free from any compounded impurities as in other preparations, which latter have the power of nauseating. The apium is combined with the other ingredients as follows:

R Apiol (Special M. H. S.).....	5 grs.
Ergotin.....	1 gr.
Oil savin.....	$\frac{1}{2}$ gr.
Alolin.....	$\frac{1}{2}$ gr.

The special efficacy of the preparation depends largely on the superior quality of the apiol and other drugs, together with the original combination of the same. The remedy has a marked influence over the uterus and its appendages, regulating an excessive circulation of blood sent to the lower abdomen, and herein lies its effect. I have employed this excellent emmenagogue for some time, always obtaining the most beneficial results, more so than from any other known preparation of like nature. To demonstrate its therapeutic influence and its perfect freedom from nauseating and toxic effects at the same time, I report the following cases:

CASE 1.—Miss B. H., aged twenty years, came to me for treatment, saying that she had not had her menses for four months, and that she was feeling quite ill. At her last period she suffered great pain, the flow was scant, and lasted for only two days. At each subsequent period she complained of a dragging, weighty feeling, which lasted for a day or two. She was pale and emaciated, had no appetite, was easily fatigued, and had lost all interest in life and its affairs. I gave her ergo-apiol (Smith), one capsule t. i. d. for three days preceding the next period. She reported passing through the period without pain or any of those untoward feelings that she was previously accustomed to.

CASE 2.—Mrs. N. F., aged thirty-two years, married for four years, no children, had suffered every month with dysmenorrhœa. Her agony was so intense that it would often cause convulsions. I was called to her during one of these attacks, and, after quieting her down with a narcotic, this patient was given ergo-apiol (Smith), four capsules, one four times a day. Four days after she appeared at my office and said that she had passed a very much more easy period than she had for years, having had no pain whatever. The case had almost become chronic, so I ordered her to continue the treatment for the next two months, which she did, with satisfactory results.

CASE 3.—Miss E. L., aged seventeen years, had had scanty menstruation ever since her menses first appeared, which was four years ago, never having been well since their appearance. I put her on the same treatment, ergo-apiol (Smith), giving one capsule three times a day, and she made a prompt recovery.”

**Eskay's Food.**—This excellent product has been before the medical profession for some years, and is favorably known to many of our readers.



It has the unique distinction of being composed of the more easily digested cereals (barley, oats, and wheat), combined with egg-albumen and sugar-of-milk. The egg-albumen and sugar-of-milk supply the proteids and carbohydrates in an easily digestible and assimilable form. It is prepared for use by the addition of fresh cow's milk and water, and boiled from three to five minutes, which process, however, does not, according to authorities, render the milk constipating, and makes it sterile. This food is valuable, not only as a substitute for mother's milk, but has a wide range of usefulness as a part of the diet of typhoid fever cases and in other wasting diseases. Several local physicians employed this food as an addition to milk diet during the typhoid epidemic last year, with most pleasing results.

**Bromo-Chloralum.**—(By Eli Grimus, M. D., Bacteriologist of Iowa State Board of Health.) Many compounds and preparations that are sold and used as disinfectants are such in name only, and when subjected to actual laboratory tests, many are found to be of little or no value.

Having learned of the frequent use, and noticed the favorable commendation of bromo-chloralum, I undertook an investigation to determine its value as a germicide and disinfectant. The following is a brief outline of the results obtained. The methods used are not discussed, as they are of technical interest only:

**TYPHOID FEVER.**—Fecal matter containing this bacillus was sterilized in twenty-four hours by adding bromo-chloralum, in proportion of one to twenty. Where the amount of organic matter is not so great, a smaller amount of bromo-chloralum was found efficient. Sewage, rich in bacteria, to which was added a great number of typhoid bacilli, was sterilized in twenty-four hours by one to forty. The typhoid bacillus in hydrant water was killed by one to fifty in twenty-four hours.

The colon bacilli in sewage and cultures were destroyed by a proportion of one to fifty and one to one hundred. The growth of both typhoid and colon bacilli was arrested by a solution of but one to two hundred.

Sewage, rich in the germs of putrefaction, was completely sterilized in twenty hours by the addition of bromo-chloralum, in proportion of one to twenty, while one part in one hundred inhibited the development of all contained bacteria.

Contaminated river water, containing 2000 bacteria per c.c., was treated with one part of bromo-chloralum to two hundred of water. In twenty-four hours the only bacteria present were in the sediment and very few in number; while water from the same source, and kept under the same condition, showed at the expiration of twenty-four hours an increase in the number of bacteria from 2000 to 180,000 per c.c.

The action of bromo-chloralum is not only that of a direct germicide, but in water it causes a rapid sedimentation of the contained organic matter, thus arresting further bacterial changes.

The last-named property renders it very valuable, although used in small amounts for such purposes as flushing out waste pipes, sewers, etc.

**DIPHTHERIA.**—This bacillus was killed in five hours by bromo-chloralum, in proportion of one to forty, while one to twenty killed in ten minutes.

False membranes, containing the virulent bacilli, were sterilized in one hour by a solution of one to ten.

**TUBERCULOSIS.**—This organism in sputa lost its vitality when treated with a mixture of bromo-chloralum in water, in proportion of one to twenty.

**PUS.**—The pus cocci in culture were killed in twenty-four hours by one to one hundred.

**ERYSIPELAS.**—This coccus was destroyed by one part of bromo-chloralum in two hundred.

**ANTHRAX.**—Blood from an animal dead from anthrax was sterilized by a mixture of one to forty. Sporulating cultures were killed by one to twenty.

**AS AN INTESTINAL ANTISEPTIC.**—While determining that bromo-chloralum was non-poisonous, observations were made of its efficiency as intestinal antiseptic. Rabbits were made the subject of the experiments. After its internal administration for five days, the

rabbits were killed and examined. There were no discoverable lesions of the viscera at any point. A bacterial examination of the intestinal contents was made. The number of bacteria were greatly reduced, but five colonies developed in an amount that gave one hundred and thirty from an animal that had not been so treated but kept otherwise under the same conditions.

The results of these investigations need no elaboration; they speak for themselves. Without offensive properties, but with high germicidal power, bromo-chloralum well deserves its popularity with physicians and sanitarians.

Des Moines, Iowa.

**Sulph-al-boro in Tuberculosis Pulmonalis.**—Dr. H. J. Tillotson, of Chicago, in a recent issue of the *Medical Mirror*, stated: "The basic tonic found most generally effective and free from reactions in tuberculosis pulmonalis, in my practice and that of most of the physicians consulting, is the tonic alterative, sulph-al-boro, the direct action of which is upon the assimilative and respiratory systems, which exhibit marked improvement. The sulph-al-boro, chemically pure, was profitably employed in all cases. Not infrequently heart tonics were found to exercise a favorable influence. The details in each case and the exhibition of the agent in the particular instance must determine the judgment in prosecuting the treatment."

**Abbott's Saline Laxative.**—Sulphate of magnesia (Epsom salt) has long been regarded as a superior saline cathartic. Its use, while in a sense quite general, has been limited to an extent, on account of the unpleasant taste and the irritation sometimes manifested in the stomach, inducing nausea, and also irritation of the bowel, causing some pain and griping. The advantage of the use of saline cathartics over the vegetable drugs is indicated in a large majority of cases; particularly is this true during the summer months, when the slightly refrigerant effect is desirable. The salines also have a diuretic effect in many instances, and the evacuation of the bowel from their use is more complete, usually causing but one stool, while the vegetable purgatives induce repeated action of the bowels. Nearly every large manufacturing drug house in the country has endeavored to give the profession a Glauber's or an Epsom salt, free from the unpleasant taste and irritation, and most of them have succeeded in obviating the undesirable features, but in most instances have reduced the activity of the salt.

Abbott's saline laxative is a chemically pure sulphate of magnesia in a non-irritating, effervescent combination. The manufacturers have succeeded in eliminating the unpleasant taste without reducing the therapeutic activity of the product, and if taken during effervescence it is decidedly pleasant and cooling. It is best given on an empty stomach and acts without griping, and does not induce weakness in the slightest degree.

Our readers who are unacquainted with Abbott's saline laxative can secure a free sample by addressing the Abbott Alkaloid Co., of Chicago.

**Antiseptic sphenoids** are composed of boric acid, acetanilid, hydrastis, opium, betanaphthol and sulphate zinc, absolutely pure and combined in proportions adapted for speedy and effective treatment. The combination, both on account of the excellent formula and the ready disintegration of



the sphenoidal tablet, is particularly adapted to the local treatment of leucorrhœa and other uterine and vaginal troubles. When desirable the sphenoid may be covered with vaseline without impairing its disintegrating properties. The formula is not unknown to many of our readers, but the form in which it is presented will render it popular, inasmuch as it is superior to any vaginal or rectal suppository which can be made by a retail druggist on a physician's prescription. The range of application of antiseptic sphenoids is not limited to vaginal or rectal diseases, but extends to all conditions indicating a healing antiseptic or corrector of mucous surfaces.

**Scrofonol.**—This preparation is essentially an oleated camphor phenate which has been so combined with a proper excipient as to form a pleasant and homogenous ointment. It is indicated in a very large number of skin diseases, and is particularly recommended for those which are inflammatory in nature and origin. In acne, acne rosacea, eczema, the various forms of lichen, seborrhea, and psoriasis it is especially indicated.

In another class of cutaneous troubles, usually rebellious to treatment, scrofonol has demonstrated its superiority. These are the vegetable parasitic skin diseases, among which are to be numbered trichophytosis (ringworm) of the body, of the head, and of the beard. Parasitic eczema, cycosis or barber's itch, and all other troubles of the skin due to bacteria, readily succumb to the action of scrofonol, and this without any irritation being produced. It is an ideal combination, having the properties of a reducing agent, an antipyretic, and a germicide.

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**Note on the Use of Eupthalmin.**—(By Prof. H. Knapp, *Archives of Ophthalmology*, May, 1899.)—The author makes the following statement: "As an aid in ophthalmoscopic examinations, eupthalmin is without a rival. Of late I discovered a new quality of eupthalmin, namely, it does not irritate the conjunctiva or the skin," etc.

**Nothing Was Right There.**—The house committee of a lunatic asylum had been visiting the institution on a certain occasion, and were afterward standing talking in the grounds, when one of their number, happening to glance at the asylum clock, cried: "Good gracious! Is that the time?" and turning to a man who was just passing he inquired: "Is that clock right?" "No," dryly replied the stranger, who turned out to be an inmate. "If it had been richt it wadna' hae been here."—*Exchange*.

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## EDITORIAL DEPARTMENT.

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### PERITYPHLITIS AND APPENDICITIS.

In the haste which characterizes the advent of a new line of treatment of any disease which has proven successful in the hands of competent and careful medical men, others rush to the other extreme, and extend this treatment to other conditions. This has been remarked with more than one remedy or operation that medical men have used during the whole history of modern and even of ancient medicine. One phase of it is seen in the idiotic and promiscuous abuse of serum-therapy by some. Another dangerous extreme to which some of the American practitioners are rushing is the erroneous diagnostication and treatment of inflammatory conditions about the "typhlon," the region of the *caput caeci* and appendix vermiformis. As we well know, a variety of inflammatory conditions can be met with here, which have been variously named perityphlitis, paratyphlitis, and also the condition which has been unfortunately designated by the misnomer "appendicitis." The conditions are of frequent occurrence, and demand for their proper relief diagnostic acumen and therapeutic skill of no mean order. The condition called appendicitis is considered purely an operative one by many surgeons. The condition perityphlitis is not necessarily an operative one, as excellent results are obtained by medical treatment. That perityphlitic states are often erroneously dubbed appendicular disorders, and so operated upon and normal appendices found, is a matter of every-day occurrence. And the chances of those patients for recovery are not enhanced by such performances of unnecessary operations. In Erb's clinic at Heidelberg we have seen cases



of perityphlitis treated with ice bags and opium (not morphine) with most excellent results. These cases should prove a valuable lesson to that countless number of men who are aching to make a record of "appendectomies." These cases were classic, and the treatment, as laid down by that master clinician Erb, was eminently successful. It goes without saying that an appendicitis demands operation where there is pus formation, but perityphlitis does not demand such an operation. The medical treatment is capable of affording relief, and so it is to be advocated with special emphasis.

### CARE IN THE DIAGNOSIS OF SYPHILIS.

It cannot be too strongly impressed upon the profession of the necessity of the most scrupulous carefulness in the diagnosis of syphilis. The making of a slipshod diagnosis is to be strongly condemned in all cases, and it is to be both condemned, deplored and severely criticised when we come to deal with syphilis. The stamping of a condition as syphilis is a matter of the most vital importance to the patient, both as regards his physical and mental status. The horror which most laymen have for syphilis is the result of ignorant teaching and superstition engendered by many years of absurd theories prevalent among both professional and laymen in the "dark ages" of medicine and surgery. Therefore, we say to those inclined to make diagnosis hastily, be careful how you pronounce a man or a woman a syphilitic. Remember the weight which your dictum carries with it. The consequences, especially when a wrong diagnosis is made, are most disastrous to the patient's well-being. The person who has been made the victim of a fatal error in diagnosis of syphilis, as a rule, really goes through more mental torture as a result of the knowledge that he is supposed to have syphilis than one who really has the disease.

This matter was brought to our notice lately by an experience which one of our esteemed confreres, a competent syphilologist of the city, told us about. An elderly gentleman came under his care who was the very picture of miserable disquietude of mind and body, his condition being due to the fact that his former physician had told him that he had syphilis. He had worked himself into a state of frenzy as a result of this kindly information. On examination by the syphilologist whom he consulted, it was found that he was suffering with a mild case of balanoposthitis and that there existed not a single symptom in the case which would warrant one in diagnosing the condition as one of lues. It was with the most profound joy that the old fellow learned that he did not have the disease which he dreaded so much and that with a few days of treatment he would be well.

It is high time that attention should be directed to this hasty method of making diagnoses. The mistakes which are made are often the result of carelessness. Other errors are made in this regard that are not the result of carelessness: they are the result of a deliberate desire on the part of the practitioner to get hold of a good case, a case that means two years' treatment and consequently two years' fees. This class of course are beyond the reach of caution. Mention is made of them in this connection only to remind our brothers of the kind of cattle that are mixed up in this profession of ours. To the other class, the hasty class, we say once more, be careful before you consign a person to the "embrace of mercury." It

means so much to these people that we should always be on our guard to shield them from their own imaginative fears and to protect them with kindly words even if they have the disease in its true form. It is but following in the teaching of Hippocrates to do this, and the medical man who neglects to do it surely deserves, in the crude but expressive words of the ancients, "to be damned."

### MIXED INFECTIONS OF TYPHOID FEVER,

Potain has recently drawn attention to what he styles the "transformation of influenza into typhoid fever" (*London Physician and Surgeon*), claiming that at the time when convalescence is expected the patient gradually goes into typhoid fever. The title he gives the connection of typhoid fever with influenza is misleading, and smacks greatly of the typho-malaria of the old practitioners. It is well enough to accept a co-existence of both maladies, but we have constantly to bear in mind that a disease cannot be bred as influenza and raise itself as typhoid fever, or *vice versa*. In the Mississippi valley a combined attack of typhoid fever and a tertian quotidian and double tertian malaria can often be observed. The attack, beginning with a chill which repeats itself several times in periodical succession, with enlarged spleen, digestive disturbances, fever and sweats, usually submits to a quinin treatment. In a few days the picture changes: the characteristic temperature curve and other symptoms of typhoid develop. In those cases the plasmodium is found as well as Widal test and the diazo-reaction. The absence of the Widal test one week does not exclude its being present the next week. The diazo-reaction is a fairly constant sign in typhoid, and a very rare one in malaria. In two quickly fatal cases of perforation the writer had under observation, the patients had been discharged as cured of malaria, and returned in five and seven days, respectively, with beginning typhoid. Not only were the plasmodia seen, and their disappearance noted, but later the Widal test and the diazo-reaction were found positive, and the diagnosis was unfortunately confirmed by autopsies. While grippe cannot be diagnosed as certainly as can the malarial fevers, yet in the practice of nearly every physician and of every hospital interne cases of typhoid develop after a remission of what seems a febricula, an acute gastric attack or an influenza. The development of true typhoid immediately after a malarial fever, grippe or rheumatism is not any more excluded than the development of tuberculosis during these diseases. But a very sharp line should be drawn between a simultaneous infection and a transformation.

### THE ETIOLOGY OF SCARLATINA.

Dr. Wm. J. Class, of Chicago, described last year an organism which he found in cases of scarlatina, and since that time his observations have been fully confirmed by the writer and also by other observers. Class has continued his good work in the direction of finding an antitoxin for the disease. The results of his interesting experiments appeared in the *Philadelphia Medical Journal*, June 23, 1900. In brief, his work consisted in finding a toxic substance by inoculating broth with the diplococcus, then filtering this broth, and finally inoculating this toxin-laden



broth into swine, bleeding them and using the serum for protective inoculation work. The results were excellent: guinea-pigs inoculated with a virulent culture of the *diplococcus scarlatinæ* and protected by an immunizing dose of the serum lived; those receiving only the virulent culture died.

There are many difficulties attending the work on an antitoxin of scarlatina. As Class says, however, everything must have a beginning; and he has surely made a good beginning and one which ought to dispel the incredulity that may exist in the mind of any doubting medical Thomas who believes slowly. The *diplococcus scarlatinæ* has a fair right to the name, and there should be no doubt of its authenticity in the light of the scientific work which has been done with it.

### KERNIG'S SIGN IN MENINGITIS.

Since Kernig, of St. Petersburg, first called attention to the sign which now bears his name, many observers have noted its almost constant presence in affections of the meninges. It is now looked upon as almost pathognomonic of meningitis. The sign is elicited by placing the patient in dorsal decubitus and then attempting to raise him by the shoulders: the knees become flexed and strike the abdomen, due to a flexor contracture of the posterior tibial muscles. The sign is almost invariably present. Its most frequent presence has been noted in cases of cerebro-spinal fever.

Fred. Packard (*Arch. of Pediatrics*, April, 1900) reports three cases in infants in which autopsy showed that meningitis was present, and in which Kernig's sign was nevertheless absent throughout the whole course. He does not consider that these cases can be used to belittle the value of Kernig's sign, and holds this phenomenon to be of decided value in diagnosis of meningitis in the adult and in older children; but he believes that if much importance is attached to this sign, particularly in infants, error is likely to arise.

This point in connection with the sign of Kernig is an important one, and though at variance with what has already been observed in meningeal troubles, yet it warns us to use the sign judiciously in making up our diagnosis. Why it should be absent in infants is difficult to state. The record of but three cases is moreover hardly an extensive enough experience to warrant general conclusions therefrom. Further experience and observations must be had before arriving at definite conclusions.

### THE TRANSMISSION OF TUBERCULOSIS THROUGH MOTHER'S MILK.

It has been assumed that the possibility of transmission of the specific microbic agents in breast-milk of a woman with pulmonary tuberculosis is rather remote, and observations, clinical and experimental, have been brought forward in support of this theory. The passage of the tubercle bacillus into the milk of tuberculous women has been doubted, mainly because no definite instances have been cited. However, Roger and Garnier, at the meeting of the Société de Biologie, held February 24, 1900, reported the case of a woman who was suffering from pharyngeal and pulmonary tuberculosis, and who died seventeen days after labor. The authors were able to isolate the tubercle bacillus from the milk of the pa-

tient, while there was no appreciable clinical lesion of the mammary gland. The milk, collected aseptically, was injected into two guinea-pigs, one of which died in thirty-three days with wide-spread signs of tuberculosis. The child lived six weeks, and at autopsy tuberculosis of the digestive tube was made out.

This observation clearly proves that the tubercle bacillus can be transmitted through the medium of mother's milk. It opens up new possibilities in our conceptions of this disease, and calls attention to a new means of prevention of the disease, namely, the interdiction of nursing by mothers with a tuberculous taint. The case is interesting and is really epoch-making.

#### ANTI-TYPHOID INOCULATIONS.

The results of anti-typhoid inoculations as practiced in the English army have been looked forward to with all-absorbing interest by medical men and general sanitarians. It is gratifying to learn that success has attended the efforts of the medical officers whose work it has been to carry on these investigations. Dr. A. E. Wright, Professor of Pathology in the Army Medical School, publishes in *The Lancet*, this week, a note on the result obtained by the anti-typhoid inoculations among the beleaguered garrison at Ladysmith. The following table shows exactly what was done. The results are unusually encouraging and serve to further stimulate us along the line of preventive inoculation in enteric fever. We well know that enteric, in nearly all our recent campaigns, has swooped down on our camps and has played more havoc with the lives of soldiers than has the whistling shells and bullets of the martial foe. The table is as follows:

	Number.	Cases of Enteric.	Proportion of Attacks to Total Number.	Deaths.	Proportion of Deaths to Total Number.	Proportion of Deaths to Attacks.
Not inoculated	10,529	1,489	1 in 7.07	329	1 in 32	1 in 4.52
Inoculated . . . .	1,705	35	1 in 48.7	8	1 in 213	1 in 4.4

Thus it can be seen that in those not inoculated enteric occurred once in every seven cases, while among those inoculated it only occurred once in every forty-eight cases. Again, where enteric *did* occur among those artificially inoculated, the fatalities were greatly decreased, only one in every two hundred and thirteen attacked dying; on the other hand, where enteric prevailed among those non-inoculated, one person in every thirty-two attacked died. In other words, among the inoculated the proportion of deaths to attacks was one in 4.4; among the non-inoculated, one in 4.52. These figures speak strongly for the advisability of performing inoculations with the anti-typhoid serum in our camps and in times of epidemics. Results have been forthcoming at Ladysmith, and they will even be forth-



coming in future trials. At least, Prof. Wright's experience as chronicled above deserves further emulation and *in extenso*.

### A SUBSTITUTE FOR GENERAL ANESTHESIA.

Some months ago we took occasion to note a new procedure in the arena of surgery, namely, the practice of injection of cocain or eucaïn into the spinal canal for the purpose of bringing about anesthesia and analgesia of the lower extremities. The operation has been successfully performed by Tuffier, of Paris, Matas, of New Orleans, and others. The writer was fortunate in seeing the operation performed in Czerny's clinic at Heidelberg. The case illustrated throughout the expediency of this new procedure. The patient, an old woman, had suffered for years with tubercular disease of the left knee. The joint affected was so sensitive that life was rendered almost unbearable for the old woman. She came to Czerny's clinic and amputation was deemed necessary—but one factor contradicted it, and that was the age and consequent inability of the patient to withstand general anesthetization. The patient was treated in this way: a weak solution of cocain was injected into the spinal canal between the first and second lumbar vertebræ. Complete analgesia and anesthesia of both lower extremities followed, and the limb was amputated without the infliction of pain. The patient stood it without a murmur.

The procedure certainly has much to commend it for indicated cases, and it is certainly effective, as personal observation proves it to be. The dangers of the operation are *nil*, and so we see no reason why it should not take its place in good surgery.

### THE LAY PRESS AND THE MEDICAL MAN.

The question of the relation between the lay press and the medical man is an extensive one, and is one which can be discussed from several phases. For instance, the crying abuse of the advertisements of disreputable quacks which appear in all our daily papers is one quite germane to this subject. Then, again, we might go into the matter of the cheap advertising methods of some of our flock which they receive at the hands of their newspaper friends and do not come under the ban of ethical medical men, as they should. We will leave these two phases out of the question, however, and deal with another phase which has lately developed in the far West.

In the *Public Health Reports* for June 15, 1900, Surgeon J. J. Kingams, of the U. S. Marine Hospital Service, in reporting on the plague situation in Frisco, says:

"The press is still attacking the board of health in every way it can, and is fully and cordially supported by one of the mercantile associations of this city. They have issued a circular which is now being scattered broadcast over the city and, I presume, over parts of the United States, in which it is stated that the Federal authorities, joined with the State and local authorities, have stated no plague exists in San Francisco. I have taken occasion to call them to task about the misrepresentation of facts, particularly with reference to me as the Federal authority responsible for the statement. I have stated to all that plague infection exists in the

Chinese quarter and will exist until a strong, determined, and concerted effort is made to eradicate it.

"I have appeared by invitation before a joint meeting of the chamber of commerce, the produce exchange, and shippers' association, and have stated to them the facts as they now exist."

Such a nefarious attitude towards the honest and painstaking efforts of the officers of the U. S. Marine Hospital Service in the discharge of their duty as custodians of the public health is truly a lamentable one in this time of the "liberty of the press." But one explanation can be found for this attitude of the press of San Francisco, and that is that it has been paid by the commercial houses of that city who are interested in concealing the existence of the plague in that city. No condemnation severe enough can be laid upon the newspapers in which this misleading and untruthful information has been given, nor can severe enough punishment be meted out to them for doing so. By the publication of matter of that kind those men go on record as opposing public protection and as menacing the lives of the community. Truly, it is a sad state of affairs that such a thing should occur in a civilized community. 'Tis a blot on civilization; 'tis a strong appeal for a censorship of the press and the abolishment of that liberty of the press which is so often abused in these United States!

#### THE CARE OF PREMATURE BABIES IN INCUBATORS.

Many lives can be saved annually by the general use of the couveuse for premature babes. Before the innovation of this means of practically substituting an artificial environment for the immature infant, all these lives were sacrificed upon the altar of inexperience and ignorance. Now, with the advent of the incubator, we may save these children for useful and profitable lives. James D. Voorhees, writing in the *Archives of Pediatrics* for May, 1900, gives a good review of the work done at the Sloane Maternity Hospital in New York in the direction of incubator life for premature babies. At the Sloane Maternity Hospital, premature babes are classified as follows: (1) Those treated as babies at term; (2) those wrapped in cotton, and (3) those kept in the incubator. The *Lion* incubator is probably the best in use. It fulfills the four problems to be solved in the care and management of premature children: (1) The maintenance of a proper temperature; (2) the prevention of exhaustion; (3) the administration of the proper amount and kind of nourishment (permitting the nurse to feed the child through a glass window at the side), and (4) the avoidance of infection. The temperature is kept equable by means of a metallic thermo-regulator.

The statistics given by Dr. Voorhees, omitting those cases which died in a few hours, as in cases of asphyxia, etc., are even better than those of Tarnier. For instance, the percentage of infants 6 months old saved by the incubator was 66 per cent: those at 6½ months, 71 per cent; those at 7 months, 89 per cent; those at 7½ months, 91 per cent. It will be seen from these figures that incubators are doing excellent work and that they fulfill the expectations of their very first advocates. Of particular advantage are they in maternity hospital work. It is really surprising how few maternity hospitals care to take advantage of this method of reducing the



mortality among their charges. It is an incontrovertible fact that premature infants can be saved in many instances by this means, and it is criminal for us to refuse to take advantage of the fact. Let special emphasis be laid upon this matter and in that way many of the unfortunates now dying in numbers will be saved.

### ROBBERY OF HOSPITAL STORES.

It seems that military abuses are rife everywhere, even in the forces of Great Britain, where we would naturally expect that rigid discipline and long experience would tend to prevent them. In our late war with Spain, frequent notes were made of abuses in the army; instances of gross negligence and culpable behavior on the part of superior officers were cited in the lay press from time to time. Again, serious charges of theft were hurled at the heads of commissary departments. These reports were so numerous that hearts of true Americans despaired, and many of us with "imperialistic ambitions" were regretfully led to believe that the strength of our future standing army would surely be sapped by this intolerate robbery and abuse.

It may be gratifying, in a fashion, for us to become cognizant of similar abuses in other national military forces. A letter from Sir Charles W. Dilke in *The Daily Telegraph* (London) for July 7, 1900, is written under this caption: "Robbery of Hospital Stores." Here is the letter:

"To the editor of *The Daily Telegraph*.

"Sir:—My attention has been called to a letter in *The Daily Telegraph* from Sir William Stokes, consulting surgeon to her Majesty's forces in South Africa, in which he says: 'Sir Charles Dilke's charge of robbing the stores is absolutely devoid of a vestige of foundation.'

"I am amazed at this statement on the part of Sir William Stokes, as the charge is not only true but admitted. The robbery was one in which a large number of persons were concerned. Among other things, the stimulants at Intombi Camp were stolen and consumed in the early days of the siege, and the condensed milk stolen and sold. Then court-martial was held. The charges were proved, and the orderly sergeant tried was reduced to the ranks and sentenced to a long term of imprisonment. I have pressed in the House of Commons for the evidence taken on the court-martial to be published, and this has been refused.

"It is to be regretted that Sir William Stokes should have denied a charge which is so conclusively established.

"Yours obediently,

"CHARLES W. DILKE."

From the foregoing it can be surmised that human nature is the same the world over, and that the American public should not remain "in the dumps" over our late experience. Surely, if abuses creep out in a tried and trained army such as England owns, we should not despair when it occurs in an army so young, so rapidly mobilized, and so poorly trained as our late volunteer forces.

## ORIGINAL ARTICLES.

### STATE OF THE SPINAL CORD IN CONGENITAL ABSENCE OF A LIMB.

BY J. W. BALLANTYNE, M. D., of Edinburgh, Scotland.

Lecturer on Antenatal Pathology and Teratology in the University of Edinburgh, and on Midwifery and Gynecology in the Medical College for Women.

CASES of congenital absence of one or more limbs occurring in the human subject generally commend themselves to the attention of the public by reason of the dexterity, which they have acquired in the use of their remaining limbs, and more especially in the skill with which they are able to employ a foot in doing what a hand usually accomplishes. It need scarcely be added that they have thus in many instances earned a living by the exhibition of their unusual powers. Miss Biffin, Thomas Pinnington, Thomas Roberts, Antonio Morretti, Thomas Schweicker, and several others gained notoriety in this way in past times; and in more recent years there have been C. H. Unthan, Kobelkoff, Eli Brown, and John Chambert. There are, however, very few cases on record in which the condition of the spinal cord in absence of one or more limbs has been observed; and it is to that point alone that the present communication is directed.

Some time ago I received from my friend, Dr. J. K. Drysdale, a female kitten, six days old, which exhibited complete absence of the right forelimb. It was a black-haired specimen, and was one of a litter all the other members of which were normal, and *one* of its parents at any rate was also normal. It was killed and the brain and spinal cord removed and hardened for microscopical examination. At the same time a normal kitten of the same age was treated in the same way, to act as a check observation. My purpose was to discover the condition of the spinal cord in order to throw some light upon the vexed question of the causation of such malformations, and in the absence of a human foetus with this deformity I had to content myself with the material available, viz., the kitten.

The animal measured 28 cms. in length from the vertex to the tip of the tail, and showed no malformations save that connected with the right forelimb. In the position where the right foreleg ought to have been there could be felt under the hairy coat a scapula somewhat displaced toward the middle line anteriorly as compared with the scapula of the opposite side. The skin and subcutaneous tissue passed freely over the bone, and were not attached to it in any way. The right scapula measured 2.5 cms. from the vertebral border to the glenoid cavity, while that of the left side measured 3 cms. The right bone showed the usual parts: spine, infra and supraspinous fossa, metacromion, acromion, and small coracoid. In the small glenoid cavity, however, was a round mass of cartilage with an ossific nucleus; this, which evidently represented the head of the humerus, was completely surrounded with fibrous membrane (capsular ligament) and the glenoid surface. In addition to the ossific nucleus in its substance there was a smaller nucleus near to its surface, which possibly



represented the rudimentary shaft of the bone. The humeral fragment had a diameter of 4 mms., while the head of the humerus on the left side measured 9 mms., so that it may be stated that on the right side the only trace of the forelimb bones was the head of the humerus, and it was half the size of the corresponding part on the opposite side of the body. The separate clavicle of the right side was also less developed than that on the left side—in fact, it was doubtful if it could be said to exist in the ligamentous union between the sternum and the acromion process. There was no indication of a cicatrix over the scapula or the head of the humerus; further, the rudimentary head was movable in the socket.

The brain exhibited no trace of hemiatrophy; it was not, however, examined microscopically. Sections of the cervical portion of the spinal cord were made at two levels, about the point of origin of the second cervical nerve, and lower down about the level of the sixth. These sections were carefully scrutinized, but no hemiatrophy of either the grey or the white matter could be made out. The cord, as a whole, did not appear to be any smaller than that from the normal kitten, but of course this comparison cannot be taken as of much importance, as the animals were not exactly the same in size. The results of the microscopic examination of the cord and of the naked-eye examination of the brain were, therefore, negative, and in this matter contrasted markedly with the findings of one or two other observers in the case of the human subject. To the communications of these observers, some reference must now be made.

H. Meunier (*Nouv. Iconog. de la Salpêtrière*, x., 15, 1897) has described a case of amelia (complete or almost complete absence of all the limbs) in the human subject in which he was able to examine the spinal cord. With regard to the thoracic limbs, the only structures found representing them were the scapula and clavicle on each side, and these bones held their usual relations to each other. It is most interesting that in this case, as in the kitten described by me, the glenoid cavity and the muscles and tissues in its neighborhood formed a sac in which was situated a globular mass of bone, called by Meunier the glenoid head (*tête glénoïde*). As to the spinal cord, microscopical sections were made of it and compared with similar sections of the cord of a normal infant. It was found that the grey matter in the cervical and lumbar enlargements of the cord of the amelus was slightly less than that in the cord of the normal infant; the histological appearances in the cells and fibers presented quite inconsiderable differences; and the whole cord of the amelus in the cervical enlargement was actually *larger* than that of the normal infant at the same level. Meunier's case does not, therefore, support the view that the deformity of the limbs is due to atrophy of the parts of the cord corresponding to these limbs.

On the other hand, there have been published some cases of absence of one or more limbs in which their trophic centers in the cord showed an arrested development: in abdominal ectromely in two human foetuses and in two kittens, the lumbar enlargement was wanting (Serres); in thoracic ectromely in a human foetus, and in a calf, the cervical enlargement was wanting (Guinard); in a human foetus, with thoracic hemimely, the grey matter on the corresponding side was less developed (Troisier); and in two human hemimelics, noted by Variot, there was marked atrophy of the

cervical grey matter on the same side. Finally, in a case of congenital amputation of three fingers of the right hand in a woman who died at the age of sixty, A. Souques and G. Marinesco (*Compt. Rend. Hebd. de la Soc. de Biologie*, 10 s., iv., 434, 1897) have found changes in the spinal cord which they regard not as the causes of the absence of the fingers, but as the result of the amputation (in utero) of the fingers. At the level of the first dorsal and eighth cervical spinal nerves the cord showed a very evident right-sided hemiatrophy, the parts specially interested being the grey substance and the posterior columns. The authors regarded these (and other) lesions as associated with the congenital amputations, for it is known that section of a nerve causes distant lesions in the center of origin of that nerve.

It will be noted that the results of the examination of the spinal cord in these various cases of absence of a limb, or of part of a limb, have been to a certain extent contradictory. In several instances, both in the human subject and in animals, the limb defect has been accompanied by atrophic changes in the spinal cord, and especially in the grey matter corresponding to the trophic centers for the defective limb or limbs; but in Meunier's case, and in the one reported above (in the kitten), the appearances did not at all support the view that there were primary changes in the cord which caused defective development of the limbs. Now, one of the teratogenic theories of absence of one or more of the limbs is arrest of development of the central nervous system of the trophic center of the limb or limbs. Taking the observations that have been made we cannot conclude that they support this theory in all the recorded instances. If some cases are to be accounted for in this way, some evidently are not. But even with regard to the cases in which there were signs of arrested development in the region of the cord corresponding to the trophic centers for the absent limbs, it does not follow that the cord changes were the cause of the limb defects; they may have been the results of them. This latter view is the one that Souques and Marinesco seem to hold in respect, at any rate, to absence of digits; the parts have been amputated by amniotic bands in utero, and the changes in the cord have followed as degeneration changes. Now, the case of the anencephalic foetus goes contrary to both these theories; for in it the brain and spinal cord are often entirely absent and yet the limbs are usually, almost constantly, well developed. There is a third theory of origin of these limb defects, viz., that the pressure of the amnion over that part of the embryo from which the limb springs causes complete or partial want of development of the limb. This would serve to explain the cases in which the spinal cord changes were wanting; but as a matter of fact we do not know what changes would occur if by pressure we artificially prevented the budding out of the limb in the embryo, possibly the spinal cord might under these circumstances show no changes at all, possibly it might exhibit degeneration or non-development changes.

The conclusion, then, to which we are forced is largely negative. The changes in the spinal cord (or the absence of them) cannot be said to prove that any one of the three theories of origin of defect of one or more limbs or parts of limbs is correct. Further, the changes in the cord cannot be said to disprove any one of the teratogenic theories. The investi-



gation leaves the subject in this position: in some cases absence of a limb may be due to (or associated with) defective development of the corresponding part of the spinal cord; in other cases, pressure from the amnion may have prevented the outward growth of the limb, or of part of it, without causing any changes in the cord; and in yet other cases (especially in instances of absence of one or more digits) the defect may have been due to amputation of the parts by amniotic bands or other agencies in utero, and the changes in the cord may have followed the amputations.

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## SOME OBSERVATIONS ON SECONDARY SYPHILIS.

By WILLIAM FRICK, A. M., M. D., of Kansas City, Mo.,

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SECONDARY SYPHILIS, it seems to me, could be appropriately classed with the eruptive fevers. We have the period of incubation, the prodromal period, and then the cutaneous eruption. The reasons for it not being so classed are the mildness of the accompanying fever and the long period of evolution. This stage of syphilis is essentially made apparent by the lesions on the skin and mucous membranes. Some internal organs have at times been shown to be affected—very much as is the case with measles or scarlet fever.

For instance: Only a few weeks ago a young man applied for life insurance. In the examination it developed that the applicant was in the fifth month of secondary syphilis and undergoing active treatment. Urinary analysis showed albumen present in considerable quantity, which I am satisfied was due to the syphilis.

The importance of being able to recognize a secondary eruption will be seen by considering the following facts:

*First.*—This is frequently the first intimation given of the disease, either to physician or patient, the primary lesion having never been recognized, or in many cases never seen. We can understand how a small hard sore in some obscure place gives very little disturbance and passes unnoticed.

*Second.*—This is especially the contagious period of the disease. The majority of contaminations occur in this period of the disease. All secretions at this time carry the contagion, and the great prevalence of mucous patches makes this time a dangerous one to those who come in contact with the afflicted one.

*Third.*—This is the period for active treatment, if we would secure the best results.

To illustrate the first point mentioned, let me mention two cases. Mrs. A——, a widow about thirty years of age, was greatly concerned about a "breaking out all over her body and limbs." An examination revealed a well-marked macular syphilitic eruption over the entire trunk

and limbs and just beginning on the face. There was also a slight syphilitic fever and beginning nocturnal headaches. She had been rather unwell for several days, but the eruption was what brought her to me. Altogether she presented a typical appearance of early secondary syphilis, but without any history at all of a primary sore.

Mrs. B—, a married woman with a two-year-old baby, had not been feeling well for some time. She had headache and a tired feeling, with a macular papular eruption, and beginning sore mouth. The sores in the mouth proved to be mucous patches and the eruption was syphilitic. A careful interrogation of this patient revealed the fact that several weeks before she had an insignificant sore in one corner of her mouth, which was slow in healing. I learned further that this lady had a brother who had been indisposed for some months and found it necessary to take a trip to Hot Springs, Arkansas, for his health. This brother was accustomed to kiss his sister when they met, and in this way had communicated the disease to her. The husband of this lady contracted the disease from his wife, which was not surprising, since unrecognized for some time. The baby fortunately escaped infection.

The macular eruptions are usually the earliest manifestations on the skin of secondary syphilis. A small amount of fever and malaise may precede the eruption a few days, and nocturnal headaches frequently accompany it. These macular eruptions, when they occur in the usual way, covering the trunk and possibly also the extremities, and accompanied by slight fever and nocturnal headache, present a picture that can hardly be mistaken for anything else, even if the history of a primary sore is absent. But we do not always have typical eruptions. The following case represents an unusual form of macular eruption:

M. B., a young man, about twenty-five years of age, was brought to me with a supposed palmar eczema. The palms were cracked and peeling but not itching. A close inspection showed a macular eruption covering palms of the hands and soles of the feet. Macules were quite large, some about the size of a silver three-cent piece, while others were only half that diameter. The lesions were numerous, frequently running together and forming patches. The skin over these patches cracked and peeled, showing a red surface beneath. This cracked and peeled condition produced a condition somewhat resembling eczema, on superficial examination. More extended examination of this patient revealed no eruption on other parts of the body, nor had there been any, but he had a sore mouth. The sores in the mouth looked like nothing else but mucous patches, and, consequently, this helped to a diagnosis. In this case, also, there was no history of a primary sore. The patient only remembered having some cracks about his lips a few weeks previous. This is the only case of this kind I have ever seen, and it improved very readily by mercurial treatment. The large papular or lenticular syphilide is perhaps the most frequent skin lesion and disappears quite readily with the usual treatment; but the small papular syphilide is quite a different matter. It proves rebellious to treatment. It has been my fortune to treat several of these cases, and I am glad this is rather rare form. The papules are about the size of an ordinary pin-head, and acuminate in form. Sometimes these lesions are clustered, and again they are scattered. My cases have shown the princi-



pal eruption about the face, neck and arms. They have been among the most stubborn cases to yield to treatment. My treatment for these cases has been the ordinary treatment for any other secondary eruption. It takes four or five months, according to my experience, to get rid of this form of the disease. The pustular syphilide may be mistaken for acne; or if it is distributed over the body generally, it may be mistaken for small-pox, especially when a mild epidemic of small-pox prevails, as for some months past. Some other manifestation of syphilis can, however, nearly always be found either present or the history of past eruptions obtained. We may also remember that small-pox, in the pustular stage, has a secondary fever accompanying it. Some observers claim that this secondary fever is always present in the pustular stage of small-pox, however mild it may be. These pustular syphilides indicate to me poor nutrition of the patient, and will require treatment accordingly.

I would draw the attention of the gentlemen present to the importance of *caudalomata lata* as a diagnostic point. These large, flat, nasty growths occur at about the same period of the disease as the mucous patches, and have been called by some writers mucous plaques. Their development is favored by warmth, moisture and friction, and hence they are found between the buttocks, around the arms and genital organs, and the inner part of the thighs. Histologically they are enormous enlargements of the papillæ of the skin. They are elevated to a greater or less degree and have a moist surface. They are often present and seem to make a diagnosis of syphilis positive, as I believe they are found in no other disease.

The mucous patch comes near being a constant factor in secondary syphilis. Very few escape it entirely. Generally by keeping a patient on good constitutional treatment and using an antiseptic mouth wash, these cases get along with a moderate amount of trouble. One of my cases, however, proved especially distressing on account of the extent of the sores and the long time required to get them well. For a time it appeared that almost the entire surface of the buccal mucous membrane and lips and tongue was involved. Entire solid food was impossible and even liquids were distressing to this patient. Healing went on very slowly. One side of an ulcer would be healing while the other side would at the same time be extending. Then time after time fresh patches appeared on surfaces which had been sore before but had healed up. In this way this phase of syphilis worried my patient for more than two years in spite of mercurial inunctions, tonics, and antiseptic mouth washes. I would like to know the experience of those present in treatment of this condition and results of treatment.

One case of syphilitic paronychia gave me a great deal of trouble. Mr. F—— had contracted the disease two years before the beginning of this particular manifestation of it. I had seen him first about eight or nine months before, with mucous patches in his mouth, which yielded very well to treatment. He seemed to do well with a combined tonic and mercurial treatment, until the skin about one thumb-nail became inflamed. The beginning was a small indurated inflamed spot of skin on one side of the nail. It slowly spread around the nail and back toward the hand. Gradually it involved the skin of nearly the entire thumb. The inflamed skin frequently cracked and peeled off, but the new skin beneath immedi-

ately took on an inflamed appearance and went through the same performance again. This was only painful when the skin cracked deeply at the edge of the nail. There was some tenderness about it which prevented the man using his thumb as he ordinarily would. Hot water applied freely, with internal giving of mercurials and tonics, seemed to hold it down somewhat at all times, but it required sixteen months to stop the process. In this case I did not want to give the iodides on account of the lateness of the lesion, but he could not get the benefit of this treatment because of his becoming iodized so quickly. A very few five grain doses produced acne and coryza every time they were tried, and they were tried repeatedly. Various forms of the iodides were tried and always with the same result. Vegetable alteratives were also used, but more benefit was derived from mercurials than anything else. Mercauro was also used in this case, but with no better results than the protoiodide of mercury. Mercurial inunctions came in for consideration and use, but no better results were obtained than with the internal administration of mercury. The disease finally disappeared while he was using the protoiodide internally with some general tonics.

In treating this stage of syphilis we must make mercury our sheet-anchor, but we must not push the drug until it becomes a detriment to the patient. I find the majority of my patients do as well with the internal use of the drug as any way. With these I use it in that way because it is the easiest method. I prescribe  $\frac{1}{4}$  grain pills or tablets of the protoiodide and have my patients take three or four daily. This will usually keep the bowels open sufficiently, but not too much. Watching carefully I prevent salivation by withholding the drug if any such symptoms make their appearance. Some patients cannot use the drug internally, because it causes some undue irritation of the alimentary canal. With these I use the mercurial ointment by inunction. The amount is gauged to suit the patient, and care is used here also not to produce pyalism. In most cases it can be used in dram doses daily. The body can be divided into six or seven divisions and the ointment thoroughly rubbed into one of these each night until each of these divisions has been used. After this my patient takes a bath. This cleanses the surface of the body and opens the pores of the skin, assisting elimination and placing the skin in better condition to take up the ointment again. If it is possible I have my patient take a Turkish bath; or as a substitute a Turkish-bath cabinet may be used. This cabinet I find a very convenient affair, since it can be used in the home just before retiring. These baths are given about once a week, with any treatment, internal or otherwise. I do not like the hypodermic method of medication in syphilis, on account of its liability to form abscesses, and would not use it except where a very rapid effect of the drug must be obtained. I believe these are the only methods of administering the drug worthy of consideration. It is necessary to see carefully to the nutrition of patients undergoing treatment. Frequently a good tonic course will be of decided benefit, either along with the mercurial treatment, or it may be necessary to quit mercurials for a time and give tonics alone or combined with vegetable alteratives. Iodides I find of very little value until quite late in the secondary stage. For its specific effects on secondary syphilis



mercury is so much better than anything else, it is hardly necessary to speak of other drugs.

If some of the gentlemen have found a different treatment valuable in the stubborn cases such as I have related, I would like very much to learn of the facts.

No. 301 Rialto Building.

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## INSOLATION.

BY BERNARD S. SIMPSON, of St. Louis, Missouri.

**A**LTHOUGH we have promise of a fairly good summer, promises, like snow, melt before a hot sun, and we may daily be confronted with a series of cases of prostration by heat. It is a peculiar fact that the hottest days do not produce the most cases of insolation, but, rather, the moist days, in which the thermometer hardly rises to its limits.

Ordinarily we do not see typical heat prostration presenting all symptoms of hyperpyrexia, viz.: enormously high temperature, coma, a bounding pulse, and stertorous breathing. With such a picture, which unfortunately occurs frequently enough, the diagnosis is established; but often the temperature is not higher than the ordinary malarial temperature, and the patient presents himself conscious and with a flagging heart. In such cases an inquiry into the history will present exposure, prolonged exertion, or overstimulation, and the measures to be taken are called for just as urgently as in the more severe cases. Frequently the physician is confronted with children who either only show a high temperature,  $104^{\circ}$ , or who are throwing themselves in convulsions, or are comatose. In these cases again the diagnosis can only be established by a close scrutiny of the history of the attack, as we have to differentiate insolation from indigestion, cholera infantum, anterior poliomyelitis or meningitis. Every practitioner knows from his own experience that two consecutive hot days will bring a number of little patients under his care who besides a temperature may show a little digestive disturbance without presenting any apparent cause for either. As a rule, this is laid at the door of a mistake in the feeding, and the little ones get their fare reduced to lime water, and are left to get comfort and cure from the cooling shades of night or a change of the weather. It is in these cases that the digestive disorders are secondary to the disturbance of the heat centers, and the proverbial calomel doses are only symptomatic in action.

Considering insolation in its various degrees, we are not amiss to classify it in:

- (a) Thermic fever.
- (b) Heat prostration.
- (c) Sunstroke or insolation.

Thermic fever is seen, as stated above, mostly in children, is characterized by a high temperature of irregular type, loss of appetite, listlessness and irregular gastric and intestinal action. Older children complain of nausea and headache. Vomiting is not an infrequent occurrence. In smaller

children convulsions occur. The picture is usually presented on moist, hot days, and is, to say the least, alarming. Occurring as it does in the same season when the diarrhœas and malarial fever are rampant, and frequently simulating nervous disturbances, as epilepsy or the onset of poliomyelitis anterior, the diagnosis can only be arrived at after considerable inquiry and consideration.

Heat prostration occurring in adults as well as in children differs from the thermic fever in not always having a temperature, although frequently a high temperature is registered, and of being of short duration. The prostration begins with a depression, headache, nausea, and frequently fainting spells; unless a temperature develops there is an active secretion of perspiration. The heart's action is rapid and weak, and, as in the paroxysm of intermittent malaria, there frequently is a systolic bruit.

During the syncope, which is of short duration, there are nervous twitchings of either the limbs or of single muscles. Very frequently spasms of the facial muscles and of the eyelids occur. Heat prostrations occur in nervous women after some exertion, are frequently seen in the shops amongst working women, and amongst bicycle riders.

The true "insolation or sunstroke" is mainly an accident of the workingman, who is constantly exposed on shadeless roads, railroad tracks, or about buildings. Alcohol plays a great part in the etiology of sunstroke, as the normal man can stand a very high degree of heat, even with moisture, ere he succumbs. The attack is always sudden. The patient has stopped perspiring (one of the forerunners of sunstroke), suddenly gets dizzy and falls down unconscious. His temperature rises rapidly and enormous climaxes have been reached, temperatures of  $110^{\circ}$  and  $112^{\circ}$  being of frequent occurrence. The face is congested; pulse full, slow or faster, jerky; breathing deep, nearly stertorous; pupils dilated. In regard to the temperature, it seems that the heat-controlling centers are completely paralyzed and the body absorbs heat and maintains it as were it an inanimate body, a piece of wood or iron. This fact has to be borne in mind when treatment is instituted. Then the heat is again given off as from a nerveless body, and the temperature may be diminished to too low a degree. It is also this fact which makes cases which have been laying unconscious for some time exposed to the sun nearly always fatal.

The diagnosis in these cases depends upon the history and the temperature; otherwise it could probably be mistaken for anemia, alcoholism, or apoplexy.

**TREATMENT.**—In thermic fever in children, or its equivalent in the adult, a rapid stimulant which, at the same time, acts on the skin, will suffice to re-establish an equilibrium. Caffeine, ammonia, champagne, cool cloths to the head, and some cool drink, will soon set the patient aright. The digestive disturbance need not be paid much attention to, unless the diarrhœa in children, when small doses of calomel can be given in powders of one-tenth grain ever hour for eight hours. Practically the same holds good for heat prostration. The patient is placed in a cool place, receives a cold douche on the head, followed by ice cloths and a general cool sponging; some rapid stimulant, as ether, camphor or caffeine, and the effect of the heat soon wears off. If there is much nausea and vomiting, he must receive the drugs subcutaneously or per *enema*. Anti-



pyretics should not be given, although antipyrine has been recommended in case of high temperature. On account of their heart-depressant effects, it is bad practice to administer this class of drugs. A higher temperature simply calls for colder water, a colder, more prolonged bath, a colder doucha, a prolonged use of the ice-bag on the head, and a good deal of cold stimulating drinks, of which iced tea is not the worst. Unless the prostration has been a severe one, there are not likely to be any bad consequences from it. Occasionally one hears of cases of meningitis following such a prostration, but it is doubtful whether the case was not one of meningitis *in primis*, or, mayhap, of uremia. Many heart and brain lesions are unjustly referred to such cases of prostration. The most disagreeable consequences of these prostrations are neurasthenic and hysterical symptoms.

By far worse is the prognosis in the true sunstroke, as these nearly always leave some defect.

Treatment in true sunstroke must be energetic from the beginning, and must be directed to above all reduce the temperature. This is accomplished by placing the patient into ice water, packing ice about him and rubbing him with ice. Care must be taken to remove the patient from the ice and place him in a dry bed as soon as his temperature is reduced to  $103^{\circ}$ . Then he must be observed for five to ten minutes. If, during this time, his temperature rises, he must be placed back into the ice bath until the temperature is reduced to  $101.5^{\circ}$ . At no consideration should the temperature be reduced lower than that suddenly, as frequently after the reduction of a hyperpyrexia to  $102^{\circ}$ , the temperature persists in falling to away below normal, so that  $92^{\circ}$  has been observed. When a temperature of  $102^{\circ}$  or  $103^{\circ}$  has been reached, the necessity for break-neck speed is over, and we should proceed judiciously. The temperature should be taken by rectum or vagina, and should be measured constantly while the patient is in the tub; later on, when in bed, every half hour or more frequently. Often after the temperature has been reduced, there is a sudden rising of the temperature to  $107^{\circ}$  to  $109^{\circ}$ , and this may occur several times. While the patient is being rubbed with ice, cold water should be poured on his head from a low distance, and a very cold enema can be administered. The practice of bleeding or transfusing sunstroke patients is not to be encouraged. When the patient is placed to bed his feet must be kept warm with hot bottles, and, if there is a tendency to subnormal temperature, blankets and hot bottles should be placed about him. Even the subnormal temperature has to be watched for an elevation which is likely to occur during the first six hours. As soon as consciousness returns and secretion of perspiration is established, the danger of immediate fatal issue is passed. During the time of treatment stimulants should be administered freely—strychnia, caffeine, ether, digitalis, and brandy making our best standards. Do not overstimulate the patient; heart paralysis is likely to set in at any moment, and is as likely to be due to hyperpyrexia as to overstimulation. After consciousness has been fully restored, the patient has to receive the care of a convalescent from any severe febrile disease. Frequently some temperature persists and defervesces by lysis; occasionally there are rises of temperature for the first few days. However, the patient has to remain abed until absolutely all fever has left him, and is to be fed

a liquid or light diet for a week. The urine and perspiration must be watched, and occasionally diuretics and diaphoretics administered. Consequences of a serious nature occur frequently after sunstroke. Acute mania, melancholia, pneumonia, and articular rheumatism have been seen to follow, and the death-rate is exceedingly high.

## THE LIGHT TREATMENT AT THE LONDON HOSPITAL.<sup>1</sup>

BY J. H. SEQUEIRA, M. D., M. R. C. P., of London, England,

Dermatological Assistant and Medical Officer in Charge of the Light Department of the London Hospital.

ON THE 29th of May, 1900, a department was opened at the London Hospital for the treatment, by light, of lupus and other superficial cutaneous diseases which depend upon bacterial infection. The method employed is that devised by Professor Finsen, of Copenhagen, and first described by him in 1897. For over three years it has been carried out in a special institution in the Danish capital with conspicuous success, patients being attracted from all parts of northern Europe and even from England. The royal family of Denmark have taken a very great interest in the Finsen Light Institute, and the apparatus now in use at the London Hospital is the gift of H. R. H. the Princess of Wales.

The principles upon which the treatment is based are the following:

1. Light is a germicide. This fact was first established in 1878 by the classical researches of Downes and Blunt, and it has since been the subject of investigation by Duclaux, Arloing, and many other workers. It has been shown that the bactericidal action of light is due to the violet and ultra-violet rays—the so-called “chemical” rays of the spectrum. Plate cultures of many micro-organisms are killed if exposed to their action for a sufficient length of time. But it is obvious that if the chemical rays of sunlight were strong enough to destroy the microbes in the skin under ordinary circumstances, lupus and those diseases which depend upon bacterial infection would disappear during the summer months. Dr. Finsen, however, found that the bactericidal action of the chemical rays is enormously increased if the light is concentrated by means of lenses, and especially by lenses made of rock crystal, which allow the ultra-violet rays, which are in part absorbed by ordinary glass, to pass through. In his apparatus the red rays of the solar spectrum are absorbed by making the light pass through a blue medium, while the ultra-red or purely calorific rays are absorbed by a layer of water. Some of the earlier workers in this field endeavored to treat lupus by means of “burning glasses,” and by mirrors, but it will be easily seen that as they relied chiefly upon the heat rays, such a concentration, if carried out for a sufficient length of time, would inevitably cause combustion of the tissues.

The ordinary artificial lights, including the incandescent electric light, are useless as bactericidal agents, as they contain very few chemical rays. The electric arc lamp, on the other hand, gives a light which is

<sup>1</sup> Published simultaneously in the *Physician and Surgeon* (London).



rich in these rays, and if the light be of great intensity the germicide action is greater than that of the sun itself. The electric light is, of course, expensive, but if cases of lupus are to be treated by light in northern latitudes, it is impossible to depend upon the sun for the greater part of the year.

2. The chemical rays of light have an irritant effect upon the skin. The commonest example of this is the form of dermatitis, known as erythema solare, some of the best instances of which are seen in the tourists on the glaciers, and in the explorers of the arctic regions. A similar inflammation is met with in the workmen employed in the blast furnaces which are worked by electricity. As Maklakow has shown, the inflammation set up by the very strong electric light which is developed in these furnaces is much more intense than the similar affection produced by strong sunlight. Professor Widmark, of Stockholm, has proved that in both instances the dermatitis is due to the chemical rays, and is independent of the heat rays; in other words, that it is not a burn. The effects produced by the chemical rays and the heat rays differ in very important particulars. The effects of a burn are immediate, whereas those of the chemical rays of light are only manifested after the lapse of some hours. As a rule, the inflammation does not reach its maximum until after from twelve to twenty-four hours. It has long been recognized by dermatologists that cases of lupus often show remarkable improvement after attacks of superficial inflammation, such as erysipelas. This is probably due in part to the effects of the local inflammation upon the bacteria in the affected tissue, but the influence of the inflammatory process upon the lupus tissue itself cannot be left out of consideration.

3. Light has a certain penetrative power. This is, of course, in no way comparable with that of the Roentgen rays, but it is sufficient to blacken chloride of silver placed in sealed tubes under the skin of animals. Professor Finsen has further shown that this power of penetration is much greater when the skin is anæmic. He demonstrates this by placing a piece of sensitive photographic paper behind the lobule of the ear, and then exposing the outer surface of the auricle to the light. In its normal condition the paper is blackened at the end of about five minutes. If now the experiment is tried with the ear rendered exsanguine by compressing it between two pieces of glass, the same effect is produced in twenty seconds.

A consideration of these facts shows that to carry out the treatment of lupus and similar diseases by light, a lens or system of lenses is first required to concentrate the rays. These lenses are preferably made of rock crystal, so that the whole of the ultra-violet rays may be brought to a focus. Secondly, the red and the ultra-red rays must be absorbed by passing the light through suitable media. Lastly, there must be an apparatus to compress the skin and render it anæmic.

The installation at the London Hospital has been carried out upon the lines suggested by Dr. Stephen Mackenzie in his report upon the Finsen Light Institute at Copenhagen. Two sets of apparatus are in use: one for sunlight, and one for the electric light.

The sun's rays are concentrated by means of a hollow plano-convex lens ten inches in diameter. The cavity of the lens is filled

with an ammoniacal solution of sulphate of copper. The lens is attached to a strong metal support in the form of a fork, in such a manner that it may be turned about a horizontal and also about a vertical axis. The fork is attached to a rod, which can be raised and lowered at will. The stand is placed upon a table about three feet high, and the patient lying upon a couch or sitting in a light rocking-chair is put in such a position that the area of skin to be treated is at the focus of the lens. The light rocking-chairs are used, as they can be placed at different angles and fixed by wooden blocks. As it is found in practice that the copper sulphate solution does not entirely absorb the heat rays, the compression apparatus is made to serve also as a cooling medium. It consists of a flat cell, made of two pieces of glass or rock crystal fixed in a metal ring. Attached to the margins of the ring are four projections, to which elastic bands can be fastened. By means of these pressure is brought to bear upon the part under treatment. In certain situations it is found to be more convenient to dispense with the elastic bands, and to press the glass upon the skin with the fingers. In any case, the pressure-glass must be held by a nurse, as it is essential that the light should fall perpendicular upon its upper surface, and that the area under treatment should be in focus. Two metal tubes are fitted into the pressure-glass, and they are connected by india-rubber tubing with a water supply, and a constant stream of cold water is passed through the apparatus and keeps the skin cool.

To carry out this treatment a portion of the hospital garden has been set apart, and during working hours this is enclosed by a canvas screen.

Apart from considerations of expense, the sunlight treatment has the great advantage of keeping the patients out in the sun during the *seance*, and this has an important influence upon the general health.

As has already been indicated, a very powerful arc light is required, and that in the installation at the London Hospital is of over 30,000 candle-power. To obtain a light of such intensity it was necessary to introduce a transformer, as the current supplied to the hospital from the public mains has a voltage of 480 and an amperage of 10. By means of the transformer a current of from 50 to 80 amperes is supplied, and this produces a light of requisite strength. In practice the lamp is usually worked at from 50 to 65 amperes. The lamp is suspended from the roof of a large room, which has been cut off from one of the temporary wards by a partition. As will be seen from the accompanying illustration, the lamp itself is surrounded by a metal screen, which serves as a shade, and at the same time excludes draughts. Attached to a strong metal ring at a lower level are four telescopes. Each is made of two parts, one sliding within the other. The lenses of the telescopes are made of rock crystal for the reasons mentioned above. The rays of the electric light are divergent, and the lenses of the upper piece of the telescope render these diverging rays parallel. The second piece brings these parallel rays to a focus about six inches below the lowest lens. The lower piece of the telescope is filled with distilled water to absorb the heat rays, and is kept cool by a water-jacket, very similar to that of the Maxim gun. Through the jacket a stream of ordinary tap-water flows continuously, and this is conducted by an india-rubber tube to the pressure-glass, which is used in



precisely the same manner as in the treatment by sunlight. The patient is placed upon a couch or rocking-chair and focused to the light. The area of skin to be treated, after being cleansed with an antiseptic solution, is marked with a dermatographic pencil. From one to three square centimeters are exposed daily for an hour to the action of the light. Then another area is treated, and this is continued until the whole of the affected part has been submitted to the rays. If at this point the existence of suspicious spots is noticed, these are again treated.

At the present time there is one lamp, and only four patients can be treated at each *seance*. The demands upon the department have already become so great that two more lamps will probably soon be erected. Each patient is attended throughout the *seance* by a nurse, whose duty it is to regulate the pressure apparatus. The nurses are under the charge of sisters who have been specially trained for the work in Copenhagen. They wear overalls, and their eyes are protected by smoked glasses. Care has to be taken in treating lupus of the face that the patients' eyes are similarly protected; and if the disease is near the orbit, the eyes are covered with lint soaked in water, and over this a layer of brown paper is placed.

At the end of each *seance* there is an interval of a quarter of an hour, during which the dressings are applied, and the nurses cleanse the pressure glasses with carbolic lotion and spirit, and wash their hands and forearms in an antiseptic solution.

The local effect of the treatment is the induction of an inflammation of moderate intensity. The more recent and less pigmented cases react the more strongly. Redness, swelling, and, in some cases, slight vesication are present in from twelve to twenty-four hours after the *seance*. Under the influence of a simple soothing dressing this soon subsides, and the area becomes flatter, paler, and smoother. The treatment is painless, there is no pyrexia and practically no scarring. The advantages over treatment by scraping, burning by acids, etc., are obvious. Ulcerating surfaces have to be treated upon general principles until the pressure-glass can be borne. It is unfortunately impossible to submit lupus of the mucous membranes to the action of the concentrated chemical rays in this manner. For these, however, the X-rays are employed.

It is as yet too early to say anything about results in the cases which are under treatment at the London Hospital, as the department has been open for so short a time. Cases of from four months' to sixty years' duration are under treatment, and provisionally it may be remarked that the results so far are in every way comparable with those seen by the writer at the Finsen Light Institute in Copenhagen. It may be worth mentioning here that some of the Danish cases have been free from recurrence for a period of two years.

The light treatment has been tried in cases of lupus erythematosus, but the results are not nearly so striking as in lupus vulgaris. Dr. Finsen finds that about a third of the cases show signs of improvement. In alopecia areata the results are very encouraging, and in a recent paper ("Hospitilstidende," Nr. 13, 1900) Dr. Finsen describes cases of epithelioma of the skin which have been greatly benefited by the light treatment. Rodent ulcer is difficult to treat, owing to the fact that in advanced cases it is often impossible to submit the part to the pressure which is requisite.

# CORRESPONDENCE.

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## HEIDELBERG LETTER.

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**The summer semester** is nearly over here. The clinical work is conducted at the "klinik" or hospital department of the University Medical School. The buildings in this "klinik" are of the pavilion style. The pathologic-anatomic laboratory is on the ground floor of the hospital, and here the students are trained in gross and minute pathological work, under the instruction of Arnold. The most famous clinic here is that conducted by Professor Erb, who has both a medical and nervous disease clinic, the former being held every day. Professor Erb is both an accomplished clinician and an excellent teacher, and his classes are accordingly very large. He begins his clinical work usually in the amphitheater and afterwards takes his classes to the wards of the medical pavilion, where he delivers his practical talks at the bedside, the cases being seen from time to time, thus giving the very best kind of instruction in internal medicine.

**The first cases** that I saw herewere perityphiles. Erb emphasizes the necessity of giving a purely medical treatment in these cases. I saw four patients all treated alike, with ice-bags externally and opium internally, with excellent results throughout.

**The surgical clinic** is conducted by Czerny. The surgical amphitheater in which this is held is a model one. The seats for the "hearers" are arranged in a circle overhead, around the operating table, so that a good view can be obtained. The arrangements for operations by the surgeon and his assistants are made directly in the operating room, a thing avoided, and properly so, in our modern operating rooms in America. The facilities for insuring perfect asepsis here are not nearly as perfect as those in American operating theaters. In my opinion the American surgeon far outclasses the German as an aseptic operator.

The surgical clinic is indeed excellent, and as an operator Czerny needs no introduction to the readers of this journal, as he is one of the most famous of German surgeons. He is careful, deliberate, and painstaking, and his technique is ideal. He is held in the greatest esteem here, and, indeed, all over the Continent. As a teacher of surgery he is a pronounced success; and constant attendance upon his clinics is extremely valuable to those interested in surgery.

July 10th.

**The main clinical work** just now is being done in Erb's clinic, as Czerny is off on a vacation, and his first assistant is conducting his surgical work. Professor Erb now gives Wednesday to a clinic for nervous diseases. One of the most interesting cases of pure hysteria that could possibly be seen was brought into the clinic last Wednesday: the patient, a man of fifty-seven years, would be thrown into a most exaggerated state of tremor and convulsion at the least sound; if the hands were clapped the convulsions would begin in the legs, then ascend to the arms, his jaws, and finally



affect the muscular supply of the chest, giving an appearance such as we see in one with severe dyspnea. The same state of convulsions could be superinduced by applying heat or cold to the skin, by pricking with pins, etc. His acoustic irritability was most marked, however. If the hand were placed before the patient's face, tremor and convulsions of the face and jaw began first, the arms and legs being affected afterward. The patient walks easily, but staggers and shakes at the least sound. The application of sudden light before his eyes produce convulsions.

**Another interesting case** was one of transverse myelitis, occurring in a youth with a pronounced kyphosis of Pott's disease. The injury to the cord, according to the clinical symptoms, was situated at the bend in the vertebræ where a softening and loosening of the bone had encroached on the cord. Treatment in this case was perfect rest, gradual extension, massage, and electricity.

**Erb gave a good talk** on the therapeutics of typhoid fever. He discussed it as symptomatic treatment. The first symptom that he discussed was fever. Of course, he spoke in first order of the efficacy of the cold bath in the treatment of this disease, as it lowers the temperature, acts well on the skin, nervous system, etc. He advocated mild cold baths in preference to the Brandt method. The contra-indications for the cold bath treatment are: *First*—When the patient cannot stand them—*i. e.*, when no reaction follows. *Second*—Intestinal hemorrhage. *Third*—Intestinal perforation or peritonitis perforativa. He gives quinine in typhoid fever from time to time, as it lowers the plane of the fever quite noticeably. It is, of course, very slow in its effects; but while the other antipyretics are rapid in lowering temperature, the fever soon rises again. Erb's treatment of hemorrhage is rest, quiet and opium: perforation—ice, opium, operation. When it is possible to make a diagnosis of perforation, early operation may save the patient. Collapse—give the patient in collapse cognac or champagne. Red wines are also good. Liquor ammonia and camphorated oil also have their place.

R. B. H. G.

July 19th.

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## PARIS LETTER.

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**The last few days** have been so hot that I am almost as badly off here as if I were in St. Louis. Have been going to hospitals every day, and have seen the best work there is in this city. The profession here are receiving the American physicians most cordially, and are polite and friendly to the last degree. Dr. Henry O. Marcy, Jr., of Boston, joins me every morning, and we visit the hospitals together. I have seen some very dexterous abdominal surgery, but I will mention the name of Fourinier, only, whom I have seen two mornings in his work. He is a wonderful man, and his performance is that of an expert and calls for the highest admiration. The most remarkable thing I saw him do was at his public clinic on a Wednesday morning, where, sitting on his chair with an assistant at his left and a clerk (medical student) at his right, fifty-one patients whom he had never seen before were brought before him in less than three hours;

five or six were admitted and undressed at a time, then he would glance at them, touch them, inspect the cavity of the mouth, and often use a common magnifying glass, and occasionally ask a question. He would then state the diagnosis and dictate the *regime* and prescription, order the reception into the hospital, or direct them when to return.

While perhaps one-half the cases were gonorrhœa or some ordinary venereal lesion which any one could have instantly recognized, many were of great interest; in the number were three, two of which he called primary lesions of the tongue, and one of the upper lip, and upon the diagnosis of two of them, held quite a conference with M. Hallopeau. While I admire him beyond description, I am not convinced that the one case was a chancre of the tongue, and I believe an error may happen even to an expert of such immense experience as is Fournier. His performance was marvelous, but it was done so rapidly that I cannot think any one who has not himself devoted years of study to the work, could have been much benefited by his exhibition. He did the thing with much humor, and his politeness to the poor devils who had fallen victims to their lust was charming in its humanity. He made them happy by telling them that they were simply unfortunate, and encouraged them all by giving them assurances of a rapid and complete recovery. It was the performance of an artist and expert, and the difficulties of diagnosis were handled so cleverly, and with such nicety of differentiation, that it was a treat to the visitors, who were, I think, all more or less connoisseurs.

The International Medical Congress is being well handled. I have met the president and other officers, and they tell me that the attendance will be large and that good work will be done. *Mais nous verrons ce que nous verrons.* The following is a list of the official fetes offered to the members of the congress: August 3d, reception by the president of the congress; August 5th, fete by the executive committees of the different bureaus, given at the Palais of the Luxembourg and in the gardens; August 7th, grand feast and ball by the municipal council in the Hotel de Ville; August 9th, fete offered by the president of the republic. Several wealthy members of the profession will also give small parties and dinners. The outlook is formidable, and if the present terrible heat does not abate, I, for one, will be tempted to go to a cooler place.

The medical and surgical exhibits at the Exposition encompass not only everything pertaining to our profession, but also dentistry and veterinary surgery. The United States is not as well represented in this department as American visitors would wish, but several of our leading firms have good exhibits.

A. C. B.

July 22, 1900.

## NEW YORK LETTER.

New York City has more than held its own this year in the matter of high temperatures, breaking all previous records for July. An inspection of maximum temperature charts for July of past years extending back to 1871 shows that the 15th, 17th and 18th of July of this year each have a maximum of 94°. These unusual temperature variations are difficult to



explain, but according to astronomical authority they are closely associated with so-called "sun spots," which are indications of increased solar activity, and of which recently several of enormous magnitude have been discovered. That temperature has a profound influence on both mind and body will be disputed by no one, and one of the most striking illustrations of this fact is furnished by the mortality statistics of the Department of Health of New York. A summary of part of the report for June and July shows the following:

During the weeks ending	June				July	
	9	16	23	30	7	14
Maximum temperature . . . . .	81°	83°	84°	92°	94°	91°
Deaths diseases diarrheal . . . . .	16	48	57	171	251	336
Deaths diseases diarrheal, age 5 . . . . .	12	48	53	160	239	313
Deaths, age 1 . . . . .	226	247	294	417	576	599
Deaths, age 5 . . . . .	388	432	446	633	784	798
Deaths violent . . . . .	70	83	79	82	116	105

An inspection of the above table shows how closely the temperature curve is followed by the mortality curve, especially as regards diseases as affecting the digestive tract, which have such an important bearing on assimilation, and thus, indirectly, on cell metabolism. Another striking feature is the great mortality among infants; for the table shows that of all deaths from gastro-enteritis, nearly all, sometimes all, occur under five years. The sensitiveness of the organism in earliest infancy to environment, especially as regards food and climatic conditions, is well indicated by the mortality under five and under one year, respectively; for about two and one-third as many die from malnutrition during the first year as during the first five years. This shows conclusively the great instability of the physiological balance of the child in its earliest years; how readily metabolism is disturbed beyond the physiological limit by such causal factors as faulty nutrition combined with high temperature and unhygienic surroundings, conditions so common in the tenement districts, which furnish by far the larger proportion of material for these mortality statistics. This has long been known, and, to the credit of this great metropolis, has resulted in the establishment and official regulation of numerous milk depots and fresh-air excursions, prominent among which are the Nathan Strauss Milk Charity and the St. John's Guild Floating Hospital Service.

That the last row of figures, under "violent deaths," should also so closely follow the temperature curve, is exceedingly interesting from a psychical standpoint, as it embodies deaths from suicides, homicides, fights, and accidents directly traceable to heat affecting the mind. However, one should be wary in drawing hasty conclusions, as there are so many other deciding etiological factors aside from temperature; such, for instance, as the many cases of drowning so common at this season of the year. Then, too, it is not the maximum temperature alone which has an influence on the mortality rate, for the table shows deaths for July 7th as 251 with temperature maximum 94°, while July 14th has 336 deaths with

temperature maximum  $91^{\circ}$ —seemingly a greater mortality with a decreased temperature. However, reference to the meteorological report of the New York Meteorological Observatory shows that the minimum temperature for week ending July 14th was eight degrees higher than for July 7th. Moreover, during the week ending July 7th, undoubtedly many fatal cases were started or aggravated, which died in time to be tabulated in the list for the 14th.

Of the boroughs, Brooklyn is stated to have an infant mortality not only much greater than that of Manhattan, but larger than that of any city in the United States. This is believed by many to be due principally to the fact that there is no summer corps of physicians to visit the sick tenement babies who have no medical care in order to prescribe for them and instruct the mothers in the proper care of children, especially as regards feeding, bathing, fresh air, and proper clothing, and fundamental principles of hygiene. For the week ending July 14th, in the last official weekly report of the Department of Health obtainable, the mortality from diarrhoeal diseases under age five is for Manhattan and Brooklyn, 113 and 149, respectively (population 2,007,241 and 1,267,158, respectively).

**The St. John's Guild Floating Hospital Service** recently celebrated its twenty-fifth anniversary, and made a trip down the bay with the children. A seaside hospital was established at New Dorp, Staten Island, for sick children and their mothers, until the floating hospital was in commission. Accompanied by a nurse and an orderly on board, the children are carried to the hospital by the Staten Island ferry free of charge.

**The Nathan Strauss Milk Charity** dispenses about 550,000 bottles of pasteurized milk annually. Milk is supplied free of charge if a statement from a physician that the recipient is unable to pay is brought. In addition to whole milk supplied in pint bottles there are three formulæ of modified milk used. That for children very young has the following formula: fat, .02; sugar, .05; proteids, .01; dispensed in three-ounce bottles. For sick children the milk is modified by addition of water, lime water, and sugar to correspond to the formula: fat, .01; sugar, .05; proteids, .01; in bottles holding three ounces. Another formula, dispensed in six-ounce bottles, is: fat, .04; sugar, .07; proteids, .02. All the milk is pasteurized in a hygienic form of nursing bottle at  $75^{\circ}$  degrees C., cooled rapidly, supplied with a sterile nipple, and taken to distributing branches in refrigerator wagons. The charity was organized in 1893, at that time occupying a shed at foot of East Third street. Now at Avenue C, near Tenth street, they occupy a two-story building. The distributing depots are the laboratory at 150 Avenue C, besides about fourteen branches located at various points throughout the city. The charges for milk are: Three-ounce bottles, eight for five cents; six-ounce, one cent each; sixteen-ounce, two for five cents. To insure the return of empty bottles a small deposit is required.

**Alex. J. C. Skene, M. D., LL. D.**, of Brooklyn, died on July 4th, at his summer residence in the Catskills, at the age of sixty-two. His demise was somewhat unexpected as he seemed in fair health, although he had suffered



from heart trouble for some time. Dr. Skene was well known as a careful, systematic and original worker in his chosen field, that of gynecology, and his book on "Diseases of Women" is widely known and used in many of our colleges. Though a Scotchman by birth, he came to this country at the age of nineteen, and received his professional education at University of Michigan and Long Island College Hospital. After serving as surgeon during the Civil War, he was for a number of years professor of gynecology, and dean of the Long Island College Hospital Medical College. In order to be able to give his entire attention to the establishment of the Skene Hospital for Self-supporting Women, he resigned about a year ago. He was also professor of gynecology at the New York Post-Graduate Hospital Medical School, at different times president of the American Gynecological Society, New York Obstetrical Society, and Kings County Medical Society, member of various other medical societies, and corresponding member of Detroit, Boston, Belgian, and British gynecological societies. Outside of his profession Dr. Skene was interested in art, particularly sculpture, and he had the reputation of being a sculptor of some merit. His literary talent resulted in the writing of a work of fiction. But it is through his medical writings that he is best known, as he not only published several works on the subject of his specialty, but contributed frequently to society proceedings and journals.

**The New York Medical Journal** has passed out of the hands of the well-known publishing house, D. Appleton & Co., which was financially embarrassed last spring, into those of Mr. A. R. Elliott, of New York. Although this most excellent periodical, standing among the first in the rank of medical journals, has a mailing list of over ten thousand, with about forty pages of advertising matter, its further publication was found unprofitable. We trust that under the management of Mr. Elliott the journal will merit the continued support of the profession; and judging from his record in the publication of the *American Druggist* we believe that its reliability and high standing will be maintained.

**Dr. A. B. Norton**, of New York, has been elected president of the American Institute of Homœopathy.

**At the Columbia University commencement** the following awards were made: To Dr. A. J. Lartigan, the Alonzo Clark Scholarship; to Dr. J. D. Vorhees, the Steven Triennial Prize; to Dr. D. Bovaird, Jr., the Alumni Association Prize.

**The Celtic Medical Society**, of New York, elected the following officers for the ensuing year: President, Dr. J. J. Morissey; Vice-President, Dr. W. J. Farrel; Secretary, Dr. J. J. Cronin; Treasurer, Dr. M. C. O'Brien.

**The New York School of Clinical Medicine** is said to have closed permanently, due to a disagreement with the board of directors. A later report has it that, while some of the staff have resigned, the school will open as usual in the fall.

In its suit against the city to have paid into its own treasury the \$50 paid into city treasury as fine by a person practicing without license and convicted by the New York County Medical Association, the association won. The decision of the court was based on the law of 1895, which states that if the complainant is a state medical society, or entitled to state representation, such fines are to be paid to complainant. Since the association is entitled to state representation in the New York State Medical Association, which is affiliated with the American Medical Association, the city was forced to pay the money to the association.

It is said that in the near future the Croton water supply of New York is to be filtered by modern improved methods. It is to be hoped there will be no unnecessary delay in having this very desirable proposition materialize, for though the Croton water is purer than that of many another city, and sometimes seemingly perfectly clear and free from foreign matter, the morning sediment in the pitcher that has stood over night suggests anything but a palatable and safe drink. The Department of Health of New York issued the following analysis of Croton water July 13th:

Appearance .....	turbid
Color.....	yellowish brown
Odor.....	heated to 100° F., marshy
Parts by Weight in One Hundred Thousandths.	
Chlorine in chlorides.....	.220
Equivalent to sodium chloride.....	.362
Phosphates (P <sub>2</sub> O <sub>5</sub> ) .....	.000
Nitrogen in nitrites.....	.000
Nitrogen in nitrates .....	.0197
Ammonia, free.....	.0035
Ammonia albuminoid.....	.013
Nitrogen, total .....	.0333
Hardness equivalent to calcium carbonate before and after boiling .....	4.000
Matter, organic and volatile (loss on ignition) .....	3.300
Matter, mineral (non-volatile).....	2.300
Solids, total (by evaporation).....	5.600

That the Spartan element is not lacking, in some members at least of the rising generation, with its daily increasing number of degenerates, physical and mental, is evidenced by the following incident: While walking along the Grand Central Railway track, a sixteen-year-old boy fell in front of a passing train which severed completely his left arm. On recovering himself the boy picked up the severed member, and though necessarily almost fainting from shock, pain, and loss of blood, walked several blocks to Harlem Hospital, where, with remarkable stoicism, he allowed the surgeon to examine and dress the bleeding stump. R.

August 1, 1900.

#### For Mumps.—

Rx Ichthyol,  
Plumbi iodidi..... aa gr. xlv  
Ammoni chloridi..... gr. xxx  
Adepis..... ʒ j  
Apply to parotid gland t. i. d.



## THERAPEUTIC ITEMS.

**The Use of Bichloride of Mercury.**—In reference to the able advice of Dr. William Frick, given elsewhere in this issue, we will say: While the protoiodide or the ointment are very convenient modes of administration of mercury, the general practitioner will find a material aid in the bichloride of mercury. We believe, as the doctor, that the hypodermatic injection of mercurials is a poor way of its administration. The calomel as well as the cyanide and the bichloride, when administered hypodermatically, cause irritation in the subcutaneous tissue, are likely to lead to gangrene, and, not being more rapid in controlling the symptoms, will cover the entire skin of the patient with abscesses ere an impression has been made. For internal administration the bichloride of mercury is not used more extensively because its toxicity is feared. Yet in the hands of experienced practitioners the drug has proven itself harmless for continued administration, and rapid in its action toward the control and cure of secondary lesions. It is extensively used in the clinics abroad, and is preferred by the English physicians to the protoiodide, because less likely to impair digestion. It is easily combined with simple tonics, or, in case of mixed treatment being desirable, with the potassium iodide. The initial dose should not be placed higher than gr. 1-24, which in a short period can be raised to gr. 1-8 or gr. 1-4 in stubborn cases. The large dose of gr. 1-4 must be looked upon as the emergency dose, while the controlling tonic or curative dose is placed at one-half the emergency dose. There are but very few cases which cannot be tided over with a dose of gr. 1-12, at which dose a patient can be kept for an indefinitely long period without causing any troublesome symptoms.

The following are accepted methods of administering the drug:

- |    |   |         |
|----|---|---------|
| ℞  | Hydrargyri chloridi corrosivi.....                    | gr. j   |
|    | Ammonii chloridi.....                                 | ʒ ij    |
|    | Aquæ .....  | 3 ij    |
| M. | ft. sol. Sig.—Teaspoonful t. i. d. (increase to two). |         |
| ℞  | Hydrargyri chloridi cor.....                          | gr. j   |
|    | Tr. nuc. vomic.....                                   | 3 ij    |
|    | Aquæ dest.....  | ad 3 ij |
| M. | Sig.—Teaspoonful after meals.                         |         |
| ℞  | Hydrargyri chloridi corros.....                       | gr. j   |
|    | Pulvis gentian .....                                  | gr. xxv |
| M. | ft. in pill No. xxiv. Sig.—One to two after meals.    |         |

**Santonin in Epilepsy.**—Dr. Frank Lydston, in the *Therapeutic Gazette*, recommends the use of santonin in epilepsy or in the convulsions caused by parasites. His custom is to begin in the adult with doses from two to five grains, and increase it to a point of tolerance, which he has found in a great many to be no less than twenty grains three times a day. As a rule, when gradually increased, fifteen grains can be taken three times daily. He has not met with the peculiar twitching around the mouth which is said to be due to the physiological action of the drug, and thinks that this is a symptom of the disease rather than an attribute of toxicity. The best criterion of tolerance is the urine, which is colored an intense

yellow, and causes frequent painful micturition and an irritation of the kidneys. The author claims that santonin is preferable to the bromides, as it does not cause the melancholia, mental hebetude, depression or ugly skin eruption. In some cases he advises the alternate use of the bromides with santonin, or gives them together: santonin three times daily, and a sixty-grain dose of sodium bromide at night.

**Treatment of Dysentery.**—Gastinel is quoted (in the *Therapeutic Gazette*) as using potassium permanganate injections for the cure of dysentery. He uses eight grains to the quart, injecting half of the fluid at first; this is allowed to remain one or two minutes, and is then followed up with the rest. The patient is made to lie down for an hour or more after the injection. If large amounts of mucus are present, he begins with an injection of one-half drachm of soda bicarbonate to the pint, and injects the permanganate solution afterward. This is said to relieve the pain and diminish the restlessness. For children, he advises one to two grains to the quart.

**Varicose Ulcers.**—Carl Beck (in the *Med. Rev.*) uses a gelatine zinc cast in the treatment of varicose ulcers. Preparation of the pastes:

℞ Zinci oxidi.....	20 parts
Gelatini .....	80 "
Glycerini .....	20 "
Aquæ.....	q. s. ad 200 "

**Pulmonary Emphysema.**—For twenty days each month give the following after each meal, avoiding starches:

℞ Kali iodidi .....	10 parts
Aquæ.....	ad 300 "

Sig.—Teaspoonful.

During the remaining ten days:

℞ Sodii arsenatis.....	10 parts
Aquæ .....	300 "

Sig.—Teaspoonful after meals.

Every eight days give 0.10 to 0.15 grains of aloes in meal; light diet, plenty of milk, no alcohol or tobacco; if possible, take compressed air baths.—*Jour. de Med. de Paris.*

**Ichthyol in Renal Diseases.**—Goldberg (in the *Berliner Klinische Wochenschrift*) refers to Palet's statistics, and shows that of one hundred and thirty-six operated upon, fifty-one (that is, forty per cent.) died, and only one-third lived over one year. This is due to infection of other organs. He recommends ichthyol internally:

℞ Ichthyoli sulpo-ammon.,	
Aquæ dest.....	aa 20 parts

M. Sig.—Ten to seventy drops in water, after eating.

Besides causing a general improvement, the local action was good, the hemorrhages ceased and suppuration diminished, as also tenesmus and pain. It can be administered for years.—*Ther. die Gegenwart.*



# MEDICAL TREATMENT.

**Ambulatory Treatment of Gonorrhœal Epididymitis and Orchitis.**—The treatment of gonorrhœal epididymitis and orchitis is not an easy matter even when the patient can be placed abed and have all the care which a well looked after sick-room entails. Infinitely harder is the same when the patient, either through business or other considerations, is forced to be about. While rest can also be achieved in such environments, the other pain alleviating element, heat, cannot very well be secured while the patient is on his feet, and we have to cast about for some efficient substitute.

It is an excellent idea to use a mild irritant on the scrotum which supplies some degree of warmth. The habit of strapping a congested, inflamed and greatly enlarged testicle has quickly and deservedly fallen into disuse. There can hardly be thought of a more barbarous torture than the placing of adhesive plaster around the diseased organ in constantly tighter growing bands; while it hardly adds any to the comfort of the sufferer, it certainly adds nothing to his cleanliness; and on removing the adhesive plaster there remains usually a sore raw surface striped with a mixture of dust, sweat and hair, filthy to look upon, not less to touch. A clean comfortable device for the ambulant treatment is found in a well-padded large suspensory bandage with hip and perineal bands. The padding is made of absorbent cotton in a double layer; between the two sheets of the cotton is placed a liberal layer of finely powdered camphor. The suspensory is strapped tight, so that the serotal bag is raised above the pubes onto the abdomen. The opening in the suspensory must be protected by a small sheet of rubber tissue to keep any urine from passing down to the cotton layers. Special care must also be taken that the opening be large enough to allow the patient to urinate without having to dislodge the testicles. The package made by this poultice in front on the patient's attire is not as noticeable as would be expected, and by careful buckling of the suspensory belts can be made to be overlooked altogether. As internal medication, the following has served many to a good purpose:

R	Sodii salicylatis.....	3 ij
	Codeinæ sulph.....	gr. x
	Aquæ menthæ piperitæ .....	3 ij
	Sig.—3 j every three hours.	

**The Treatment of Heat-stroke.**—The present summer has thus far been one of unusual mildness; and as a result there have been a comparatively small number of cases of heat prostration reported. There is a chance, however, that there is some depressingly hot weather yet to come, and every physician should be prepared to meet any emergencies arising therefrom. In the treatment of heat-stroke the results have not always been gratifying, and the mortality reports show a high death rate which should not exist where cases are treated scientifically and conscientiously.

The apparatus needed for the treatment of heat cases are a bath tub, a marine thermometer, fountain syringe, plenty of hot and cold water and ice, and a drug cabinet containing a hypodermic syringe, whisky, strychnine,

nine, atropine, nitroglycerine, digitalis, and such other remedies as may be preferred in the treatment of symptoms likely to arise.

A patient who is prostrated by heat should be placed first in a tub containing ordinary hydrant water, which should be gradually cooled by the addition of ice. If the temperature be very high, ice water enemata are also indicated. Lowering of the temperature to about 101° is an indication for removal from the ice water; and if the temperature become subnormal, hot bathing and friction should be instituted at once.

During [the carrying out of these measures of hydrotherapy, the patient's condition must be carefully watched regarding points other than temperature, and the symptoms treated on general principles. It will be found necessary to stimulate the failing heart by repeated hypodermic injections of whisky, digitalis, etc.; and to assist the lungs with strychnia, or, perhaps, with artificial respiration.

By the intelligent application of hydrotherapy and stimulation, varied to suit the needs of each case, recovery will almost invariably result, even in the most aggravated cases of heat-stroke.

**In case of severe vomiting** it is advisable to administer a one-eighth to one-fourth grain dose of cocaine in tablet or capsule. When given in solution the cocaine is usually absorbed in the œsophagus, and does not reach the mucous membrane of the stomach. Cerium oxalate and bismuth subnitrate will often relieve vomiting when given in comparative large doses:

℞ Cerii oxalatis .....	gr. v
Bismuthi subnitrate .....	gr. xxx
M. ft. chart. j.	

Of course, it must be remembered that wherever a retention of toxins can be excluded, or uræmia is out of the question, nothing will compare in its effects with a moderate dose of morphine and atropine combined. This last is especially contra-indicated in peritonitis, and its use must be warned against.

**Morphine Poisoning in Infants.**—As the diarrhœa season begins, infants poisoned by the administration of morphine, through careless attendants, mothers or druggists, "*noli tangere physicos*," are by no means of rare occurrence. Dr. A. Levy, of this city, reports a case in which he used the kali permanganate treatment. An infant, nine months old, had been given a one-fourth grain tablet of morphine for calomel. When he saw the case the child had pin-point pupils, very slow respiration, slow pulse, was perspiring and had cold extremities. This was one hour after the ingestion of the dose, which is the equivalent of three and a half grains given to a healthy adult. After the introduction of a catheter he washed the stomach out with a 1-3000 solution of permanganate, using twenty-four ounces. Eight ounces of the fluid were left in the stomach for absorption; an enema was given and slight flagellation instituted by means of a towel. After an hour's delay a large cup of hot black coffee was introduced by means of the catheter, and the flagellations continued until reaction of the pupils set in. Recovery unretarded. The case is a highly interesting one, firstly, on account of the youth of the patient; secondly, of the evident harmlessness



of the instillation both of the potassium permanganate and the coffee solution. In the treatment of morphine poisoning in the adult, the kali permang. treatment has not proven a universal success (at least, not in this city), probably on account of the longer elapsed period before treatment could be begun.

**Asthma.**—Very little is known of the action of iodide of potash in this disease, but undoubted it is that the action is a highly beneficial one. After all the ætiological factors have been considered and the attack persists, the practitioner will find that large, nearly heroic, doses of kali iodatum will not only cause amelioration, but cure many cases of asthma. Kali iodatum is recommended in all text-books of medicine and therapeutics, in doses of five to ten grains every three hours. The effect of such administration is a double one—firstly, it fails to influence the disease sufficiently to make the patient persist in its use; secondly, it is soon followed by bad gastric and skin symptoms. The alterative effect of the salt, its antispasmodic and vasodilating action, is nearly of immediate benefit in asthma when given in adequate doses. The first effect, and the subsequent freedom from attacks, without the supervention of disagreeable stomach or skin symptoms, usually cause the patient to persist with the medication, and excellent results are obtainable. Above all, in asthma, it is necessary to give immediate relief, and to stop any irritation which is present. While even here the iodide of sodium or potassium will suffice, it is best and safest to give a full dose of morphia or codeine, per os or hypodermically (according to the severity), to allay the attack. The potassium treatment is then instituted. The patient begins with thirty drops of the solution saturata kali iodati in a tablespoonful of water, followed immediately by a glassful of water, milk or seltzer. The dose is given fifteen minutes before meals or immediately after each meal. All starch-containing food must be avoided in the latter case. Each day the dose is increased by five drops until teaspoonful doses are taken, when it is similarly reduced back to thirty drops. During the first week of the treatment a solution containing one-eighth grain of morphine or one-fourth grain of codein is given every four to six hours. A good prescription is the following:

R	Morphia sulph., gr. ij.; or codeinæ sulph.....	gr. iv
	Spt. ammonii arom.....	ʒ ss
	Spt. chloroformi.....	ʒ ij
	Aqua dest.....	ʒ x
M.	Sig.—Teaspoonful as directed.	

The potassium iodide can be continued this way for six to eight weeks, while during the time of its administration a tablespoonful of Epsom salts are ordered every morning or every alternate morning, taken in a glassful of hot water before breakfast.

**The temperature of baths in typhoid fever** should be regulated so as to obviate the dread which the patient experiences. To the family as well as the nurse and the physician it is often heart-rending to see the piteous expression of the patient when his bath is prepared. If the patient is only semi-conscious his terrible shrieks and struggles are not only pitiful but are often likely to cause interference from the side of the family. Besides, the

excitement accompanying or preceding the bath nearly altogether counteracts what good effect is aimed at, by the shock of the cold bath on the nervous system and the temperature.

When resorting to the tub bath in typhoid fever, it should be the aim to make the bath seem a pleasant remedy to the patient. This is best achieved by never placing the patient into water lower than ninety-eight degrees. This temperature alone is sufficient to reduce the fever temperature, especially if at the same time colder water is poured upon the patient's head. The reduction of temperature of the bath can easily be accomplished by placing ice into the water so that at the end of thirty minutes, when the patient is removed, the water is as low as eighty-five degrees. It is questionable whether a lower temperature is of any benefit whatsoever. If we take into consideration the difference in the looks of patients treated with a bath varying from ninety-eight degrees to eighty-five degrees, and, on the other hand, from eighty-five degrees to seventy-five degrees, we easily arrive at a conclusion in favor of the former. The patient has not the anxious look, the agonized expression, the blue lips, or the constant shiver which we are wont to see in the latter cases. The reduction of the fever temperature is achieved in both cases alike, perhaps a little faster in the colder bath, but certainly not with the same feeling of comfort and—if we may use the expression—of “well-being.” The warmer bath seems also less harsh, and will in private cases not meet with such frequent opposition as will the colder one.

As regards the management of the bath, it is well to bear in mind a few particulars adding to the safety of the patient when lifted in and out of the tub, and to his comfort while in the tub. In hospitals and in private practice, the physicians and attendants, who use the greatest possible care in turning a patient from side to side or in lifting up his head for the administration of food, will frequently not hesitate in picking the patient up by his shoulders and legs to place him into the bath. This is dangerous practice, not to speak at all of its unæsthetic aspect. By raising a patient thus unceremoniously his abdomen is not well taken care of. The voluntary or involuntary contraction of the abdominal muscles during such a proceeding press upon the distended intestines and disturb the rest in which even the pathological distention has placed them; at least irritation of the diseased organ, if not breaking of an ulcerated surface with consequent bleeding, is likely to follow, and the supposed remedy to prove an aggravating factor. A good way to lift the patient into the tub is to place him upon a large sheet in the center of which six or eight large buttonhole-like perforations have been made. He is placed in the bath on this sheet and it is left under him. When raised out of the bath he is in the net of the sheet, the water running out of the center holes. The patient can be moved this way at an indefinitely greater comfort and safety to himself and also to the attendants. To increase the comfort and safety of the patient while in the bath he should receive a moderate dose of brandy at the beginning of the bath and should be gently rubbed with some coarse material, a rough sponge or a coarse drawn linen towel. This rubbing of his back, chest and limbs must be kept up while the patient is submerged. His abdomen should be carefully avoided. After his removal from the bath he receives a warm glass of milk with lime water, and is covered with



light woollen blankets. It is not advisable to give any brandy, as the cooling effect of the bath is counteracted to a large extent by stimulants.

**The Pathogenic Importance of the Modifications of the Acidity of the Urine** (M. Joulie in the *Bulletin Therapeutique*).—The reaction of urine to test-paper in gout shows an alkalinity instead of acid. While ordinarily the change of an acid urine to an alkaline one is an easy matter, the reverse is far more difficult. Gouty patients suffering with an hyperacidity of the stomach are usually treated with weak alkalis, remembering that when the acidity of the stomach is at its highest the acidity of the urine reaches the minimum; and hence, when the gastric acidity is permanent, the urine should be persistently alkaline. The surprising fact in the author's experiment is that upon the administration of an acid the urine became acid; at the same time the general gastric symptoms improved (the acid used was phosphoric). The conclusion arrived at is that many cases of acid dyspepsia do better treated with acid than alkalis. The author does not state the influence of the administration of acid on uric acid.

**The Combined Action of Hypnotics and Diuretics on the Functions of the Kidney.**—In a paper written for *Il Policlinica*, Dr. F. Perochi records his experiments with caffeine, potassia nitrate, sodium nitrate and diuretics, given alone and in connection with chloral and sulphate of duboisin. He comes to the conclusion that the diuretics administered by themselves are uncertain in their physiological action and weak, with the exception of diuretin, which by itself is a powerful eliminator of urine. The chloral increased the action of caffeine, arbutin and of diuretin—of the last not constantly; potassium nitrate is also increased by its addition, while sodium nitrate is not. The sulphate of duboisin increases the diuretic action of all the drugs mentioned. These experiments are of value in the renal diseases and general œdema. Where powerful diuresis is wanted, the known diuretics alone prove inefficacious and have their action increased by the combination with hypnotics.

**The inhabitants** of Chinatown are preparing to enter suit against the federal government or the city of San Francisco for quarantining them during the recent bubonic plague fright. The Chinese are getting bold; after eating our missionaries they want a slice of financial pie as dessert. The action grew out of an attempt of U. S. N. Assistant Surgeon Kenyon to prevent the spread of the plague inland. He had found a well-authenticated case of plague, and had instituted only the most necessary precautions against the distribution of the terror. That his measures were necessary, and that more vigorous proceedings should have been kept up, has been since shown by the constantly new outcropping cases. It is greatly to be pitied that the medical authorities are constantly hampered by municipal bosses and vote-hunters, and that honest endeavors of honest men in the interest of public welfare are counteracted by the scheming and intriguing of hungry politicians.

The Massachusetts judge who refused to grant a man a divorce from a woman suffering of syphilis before her marriage, and who had contracted marriage in spite of it, can only be admired for fair-mindedness. Why should not one man suffer from our advanced civilization as do thousands of women? Unfortunately our laws do not interfere in the marriage of luetics. Whether the offspring of this couple will bless or curse the man who refused to break the fetters linking their progenitors, remains to be conjectured. It seems, though, as would the fair-minded dispenser of justice have to answer for the misery of some tabetics or paretics which will fall a burden upon the State of his Honor. But little can be said of point of view of the lawyer, when we consider how careless the physician is in the relation of syphilis to marriage. Not only has the profession never taken any steps to cause legal interference with the union of luetics—at least until a reasonable time has elapsed—but also in the office, when man to man, the matter of syphilis in regard to marriage is treated lightly and the latter rather encouraged than discouraged. The physician, of course, has to back his dictum of the curability of the disease with a permission to marry, and often overlooks the trial time which should elapse after active treatment has stopped.

An interesting item is reported in the *Public Health Report*, July 6th, from Archuleta, Colorado. It bears directly upon the tenacity and virulence of the contagium of small-pox. An infected blanket which had been used on a small-pox patient was exposed to wind and weather and the summer sun for more than a year. Being short on blankets, the family used it to cover a child. The child was taken with hæmorrhagic small-pox in about ten to twelve days, and died three days later. This case is interesting in three directions:

Firstly, the time elapsed was over a year; secondly, during this period the blanket had been exposed to all changes of climate—a moist, cold winter, a dry, hot summer; thirdly, that the infection it conveyed was of the severest type.

It is evident from that that the contagium of small-pox is a very stable one; of a vitality seldom met with amongst the known cultured germs, which need the greatest care and a temperature as nearly even as possible to grow and prosper in the media. The known cultured germs are also disturbed in their growth, if not destroyed, by changes of climate and temperature, alternate heat and cold being considered an effective procedure to exterminate germs.

As a rule, the virulence of germs is greatly attenuated when left under unfavorable conditions, such as sunlight and uneven temperature furnish. Vaccine under these circumstances not only loses its virulence, but becomes absolutely inert, no matter whether kept on ivory points or in hermetically sealed tubes. It is likely that the accumulation of dust, perspiration and oil of wool, fiber of blankets or other fomites makes a favorable culture medium for germs and a good retainer of spores.

**On Antitoxin Serums as Blood Coagulants.**—Arthur John Hubbard, Physician and Surgeon, London, reports three cases of high interest in which he used various serums as coagulants. The first case, an aortic



aneurism, he began by administering antisyphilitic serum, and achieved a remission of the pain; afterwards he used the antidiphtheritic serum, and kept his patient free from pain for about two years.

The second case was one of epistaxis in a hæmophilic, in which, in spite of repeated tamponing of the nares, leaving the tampons in for forty-eight and seventy-two hours, the bleeding continued. Here the antistreptococcus serum was used first, and the next day 6.5 c.c. of antidiphtheritic serum, with complete stoppage of the hæmorrhage as a result.

The third case is a case of hæmorrhagia, in which the bleeding was excessively profuse and recurred every twenty-fifth day. She received three injections of antidiphtheritic serum of 1500 units. The report states the case as cured.

The preceding cases lead to the speculation whether antitoxic serums have a greater coagulating power than normal serums; whether the coagulating power is one with or separate from the antitoxic sera. In case of the antisyphilitic serum, and even the antistreptococcus serum, this seems easily answered, as their antitoxic qualities are nearly *nil*. Hubbard claims, though, that the antidiphtheritic serum has a higher coagulating power than the others, which probably points to the fact that along with the antitoxic power the coagulating power is heightened.

**Methylin blue**, administered internally in grain doses, in capsules, is said to be giving good results in the treatment of gonorrhœa. The urine is changed into an antiseptic solution in excreting the drug, and takes the place of injections applied from without.

**Absolute alcohol** gives best results in the treatment of carbolic acid poisoning. It should be administered *ad libitum*. No other antidote is usually required.

#### For Injecting Hæmorrhoids.

- R Iodi.....gtt. vij  
 Acidi carbol.....gtt. viij  
 Glycerine.....gtt. x  
 M. Sig.—Inject the dilated blood-vessel until white. Pass the needle between the coats of the vessel before entering the lumen, to avoid bleeding and escape of the fluid.

**Tabes Dorsalis Treated with Strychnine and Antipyrin.**—Owen (London) reports a case of tabes treated with a combination of strychnia and antipyrin. The patient has now been under treatment for eighteen months, and is at present taking fifteen grains of the antipyrin and ten min. of strychnia, occasionally resting from the treatment for a day at a time. The lightning pains are quite dispersed by this treatment and very speedily and are less frequent and severe. The patient rests and eats well.



**The Anatomy of the Brain.** A text-book for medical students. By RICHARD H. WHITEHEAD, M. D., Professor of Anatomy in the University of North Carolina. Illustrated with forty-one engravings.  $6\frac{1}{4} \times 9\frac{1}{2}$  inches. Pages 96. Extra Vellum Cloth, \$1.00, net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia, Pennsylvania.

In the preparation of this book the author aimed to furnish students and practitioners with a guide to the study of the brain. Minor subjects and matters still in controversy are avoided. Use has been made of the Latin terms adopted and recommended by the German Anatomical Society, to the extent of placing them in parenthesis after names commonly employed in this country. The book is well illustrated and printed in good type.

It will materially aid the medical student in gaining a clear idea of the anatomy of the brain.

**The International Medical Annual, 1899.** A work of reference for medical practitioners. Seven hundred and fifty pages. Fifteen full-page colored plates, and twelve full-page half-tone plates; besides numerous illustrations in text matter.

This volume presents articles covering the whole field of medicine and surgery, and contains a large amount of practical information. The names of leading American and English authorities fill the list of the contributors, who have done their work exceptionally well. The publishers would have favored the profession still more had they used larger type for the text matter.

**A Manual of Surgical Treatment.** BY W. WATSON CHEYNE, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. BURGHARD, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College London, Surgeon to King's College Hospital, etc. In seven imperial octavo volumes, with illustrations. Volume III., three hundred and five pages, with one hundred illustrations. Cloth, \$3.50, net. Lea Brothers & Co., Philadelphia and New York. 1900.

Volumes I. and II. of this work have had attention in preceding issues. We are more impressed with Vol. III. than either of the others. The authors are able authorities and are giving the profession a valuable contribution to surgical literature. It is the most practical treatise of surgical treatment, and the one best adapted for the use of the country practitioner, that we have seen.



The present volume covers "The Treatment of the Surgical Affections," of the Bones, including Amputations, and includes in the first part eight chapters on Fractures of the Clavicle, Scapula, Humerus, Forearm and Hand, Pelvis, Femur, Patella, Leg, Foot, etc. A comprehensive treatise upon Diseases of the Bones in six chapters, in which, among others, the authors write of Acute and Chronic Inflammation, Necrosis, Tuberculous Disease, Syphilitic and Rheumatic Affections, Rickets, Osteomalacia, Acromegaly, Actinomycosis, Tumors, etc., is also given.

In part two is taken up a most complete and modern consideration of Amputations.

**Deaver's Surgical Anatomy.** A treatise on human anatomy in its application to practice of medicine and surgery. BY JOHN B. DEAVER, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. In three royal octavo volumes of more than six hundred pages each, containing about four hundred and fifty full-page plates, nearly all from original dissections. Cloth, \$21.00; Full Sheep, \$24.00. Vol. I. contains Anatomy of Upper Extremity, Back of Neck, Shoulders and Trunk, Cranium, Scalp, Face. (For review see March issue.) P. Blakiston's Son & Co., Philadelphia, Pennsylvania.

The publishers rightly term this work *a bridge between anatomy and practical surgery and medicine*. It is the result of many years of preparation. The illustrations, always doubly important in anatomy, are new and largely from original dissections.

Volume II. is devoted to the Anatomy of Neck, Mouth, Pharynx, Larynx, Nose, Orbit, Eyeball, Organ of Hearing, Brain, Male and Female Perineum.

By the production of this work Dr. Deaver has erected a monument which will stand for years to come, and the publishers have conferred a lasting favor on the profession.

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In giving the iodides of sodium or potassium the initial dose of the saturated sol. in adults should be twenty to thirty drops three times daily, and increased five drops each day. In this manner the patient can be gotten more readily under the influence of the drug and can tolerate larger doses without the gastric irritation or the appearance of the iodide rash.

Dr. H. L. Van Natta reports a case of tetanus treated with antitoxin with recovery. He advises the injection of 10 c. c. every eight hours until the temperature is normal.

## SURGICAL SUGGESTIONS.

**Cocain Anesthesia from Lumbar Injection.**—Considerable interest has been manifested during the past year in the matter in inducing general anesthesia by the injection of cocain beneath the arachnoid in the lumbar region. The result of this injection is the production of complete anesthesia and analgesia below the umbilical level. Special care, however, is necessary in making the injection; the method is described by Huguerim in the June issue of *Concours Medical*, as follows:

The patient lies on his left side with the body well arched forward, the legs and thighs completely flexed on the pelvis. In this position the lamina of the vertebræ, which are normally close to one another, are well separated from one another. Remembering that a line joining the posterior inferior iliac spines roughly crosses the fifth lumbar vertebra; a little above will be found the third and fourth lumbar intervertebral spaces, through which, or else in the sacro-lumbar interspace just below this line, the puncture should be made. Above the third lumbar vertebra, and especially in young subjects, the introduction of a needle might injure the spinal cord. The skin being anesthetized by a spray of chloride of ethyl after disinfection, and a suitable strong tubular needle about three inches long being selected, one may proceed to inject the cocain. In the first stage the needle is thrust through the soft parts. With one finger of the left hand on the spinal process corresponding to the intervertebral space selected for the injection, the needle is pushed in at a point about one-fifth inch external to it—going through the skin, subcutaneous tissue, lumbar aponeurosis, sacro-lumbar muscles, etc., down to the vertebral column. The second stage—penetrating the interlamellar space—is the delicate step in the operation. The needle held between the thumb and right index finger should be directed gently inwards and slightly upwards to avoid the bone. The third stage is reached when, the needle being cautiously pushed still deeper, a few drops of cerebro-spinal fluid are seen to exude from its free end. Cocain should not be injected until the penetration of the needle into the subarachnoid cavity is revealed by this escape of fluid; eight or ten drops should flow out. With regard to the solution of cocain to be injected, it should be freshly sterilized and at blood-heat. Only a small amount of a weak solution is necessary and safe—about 8 c. c. of a 1-200 to 1-100 solution.

Huguenin advises sealing the puncture with collodion after the hypodermic needle had been withdrawn. He describes the sensation following the injection: the subjective symptoms—tingling sensation, partial numbness—sensations of pressure and cold, are first observed. Sensibility to pain disappears first, then sensibility to heat, and later that of touch disappears. Anaesthesia below the umbilicus is complete in about ten minutes, and lasts, in most cases, more than an hour, but usually disappears within two hours. Returning sensation is from the umbilicus downward, the extremities being anaesthetic the longest time. The application of this method of inducing anaesthesia is very wide, and we trust the observations already made will be confirmed by further investigations.



**Thyroidine in Treatment of Fractures.**—M. Guinard before the Paris Academy of Surgery stated that he had administered the substance in large doses without satisfactory effect.

The patient had an oblique fracture of the leg which did not unite after the use of a cast. Two years later he resected the fragments and wired, again without any result. There was no interposition of muscles, hence the failure of the thyroidine cannot be blamed for this complication.

M. Poirier reported two cases. The first a comminuted suppurating fracture of the femur; no consolidation occurred in spite of massage and continuous extensions; thyroid medication was without benefit. In the second case a fracture of the femur was wired; there was no consolidation at the end of three months. After administering thyroid tablets the fracture united.

M. Potherat reported two cases in which this form of treatment seemed to have given unmistakable results.

**At the recent meeting** of the American Association of Genito-Urinary Surgeons Dr. Edward L. Keys, of New York, related the instance of an old gentleman who came to New York with a stone in his bladder which was crushed and removed entirely. He was in "catheter life" and continued to be so. He had no cystitis or prostatic disease. He went home still wearing his catheter. He was sixty-five years old but lived a number of years afterwards, strong, vigorous, never having any pain except slight renal colic. Suddenly, while in the bloom of health—except for the fact that he used a catheter—he was attacked with a paroxysm of kidney colic while out trout-fishing, was treated by the ordinary means employed in those days, and died in suppression of urine. The autopsy showed one kidney atrophied and withered, with practically no kidney substance left. The other kidney was large and healthy, but had its ureter totally blocked with a calculus. There was no prostatic enlargement, no bar, no third lobe, no stone in the bladder, no cystitis. Vesical spasm, due to the kidney stone in the pelvis of the kidney, had caused the retention during all those years. The smooth inside wall of the bladder was not thickened nor were there evidence of any cystitis.

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**Treatment of Hay Fever.**—Good results are reported from the administration of extract of suprarenal capsules in the treatment of hay fever. It is used in solution by means of a spray, or administered internally. For internal use the dose is from two to three grains every three hours until full therapeutic effect is obtained, after which the time between doses is increased until one or two doses given daily during the hay fever season, give the patient decided relief.

## NEW REMEDIES.

**Hypo-Quinidol (Gardner).**—This remedy, as noted in a previous issue, is a combination of quinine and phosphorus, a modification of the hypophosphite.

Hypo-Quinidol (Gardner), is freely soluble in aqueous menstrua, is amorphous, and deliquescent; it is excessively bitter on account of its solubility, for which reason it is best administered only in the form of pills, protected from atmospheric oxidation and deliquescence by an impervious coating, which also conceals its bitter taste. It contains phosphorus in its lowest oxidizable condition, a non-irritant and easily assimilable form, while the quinine being freely soluble, is immediately absorbed, and is much superior to the sulphate or bisulphate as an antiperiodic in remittent and intermittent fevers, in all malarial affections, especially fevers incident to the tropics, and as a general tonic.

The following cases are taken from the records of the St. Louis City Hospital:

PERMIT No. 7963.

**FAMILY HISTORY.**—Habits very good. Father born in New Orleans; is living and healthy. Does not know mother's birthplace nor cause of death. No family.

**PERSONAL HISTORY.**—Born in 1880, January 1st; scale worker for part repair; before that worked at horseshoeing trade. No serious accident. Has always lived in St. Louis except for past year, when he has been in East St. Louis until a week ago.

**PREVIOUS DISEASE.**—Those of childhood.

**PRESENT CONDITION.**—Contracted in East St. Louis. Two months ago suffered from severe headaches, chilly sensations with occasional fever, nausea and aching in limbs. He took medicine from a doctor, with little improvement. Ending two weeks ago he had a week of recurring chills and fever on every other day; chills occurring in afternoon, being followed by fever and sweating, with thirst, desire to urinate, great aching in bones and muscles. He again took medicine, but became worse; and on entrance here was found to have a temperature of 101.6°; pulse, 140; respiration, 26. He had pains all over him, especially in upper extremities; eyes pained him slightly, they were red and tissues were congested about them. A slight coryza was present and he felt very weak and depressed; grippe was strongly suspected, but close examination showed a beautiful specimen of small, round, plasmodii malariae.

**PLUPICAL EXAMINATION.**—Nothing abnormal found.

**URINE.**—Acid; clear; sp. p. 1020; no albumin.

**DIAGNOSIS.**—Remittent malaria.

**PROGNOSIS.**—Good.

**TREATMENT.**—Hypoquinidol, four pills, t. i. d.

**GOOD RESULT.**—Has received treatment for two days; fever has abated entirely, and he feels very well.

**JANUARY 31st.**—Is walking about and feels perfectly well.

**FEBRUARY 10th.**—Discharged recovered.

Ben. M.; age, twenty-nine; nativity, Missouri; in city seven years; diagnosis, malaria; admitted to hospital May 7, 1899.

**FAMILY HISTORY.**—Good.

**HABITS.**—Fairly good.

**PAST HISTORY.**—Had the general diseases of childhood; malaria several times; la grippe two years ago.

**PRESENT TROUBLE.**—Began last spring with chills and fever; this condition has lasted ever since. When patient entered this hospital he was suffering with tertian malaria. Two days after arriving here slight oedema of feet and ankles began; also severe pain in lumbar region. Patient noticed that his urine was very scanty, and was troubled with frequent micturition, and at times was troubled with vertigo.

**PRESENT CONDITION.**—Fairly well developed, musculature good, no enlargement of any of the joints of the body, no skin lesions, liver area not enlarged, spleen area enlarged. Digestive system normal, vascular system apparently normal, respiratory system normal, nervous system normal, urinary system normal.



**URINALYSIS.**—Specific gravity, 1025; red in color, large amount of albumin, epithelial, granular and hyaline casts, blood corpuscles present; no other abnormal constituent. Twenty-four hour amount of urine, 600 c.c.

**BLOOD EXAMINATION.**—Tertian type of plasmodium found.

**TREATMENT.**—Patient was put upon quinine and diuretin; second day, after administering quinine, it was noticed that the hæmaturia increased, and arsenic was substituted in its place; after this the hæmaturia began to subside. About June 5th the symptoms of chills and fever entirely disappeared and patient had improved so that he could be put on detail work in the division. He remained apparently well until August 13th, when chills and fever again appeared, having chills every other day; but in this instance the kidneys were not involved; repeated urinalysis did not reveal anything; it was especially noticed that there was no hæmaturia present. Blood examination revealed plasmodium malaria. Quinine was immediately given and urinalysis the following day revealed a marked hæmaturia; the quinine was withdrawn and the patient did not receive any medication for several days. On renewing the quinine the hæmaturia again appeared; the quinine was finally withdrawn and hypo-quinidol substituted. Patient improved under this, the hæmaturia finally disappearing. Patient is now apparently well and doing detail work in the division.

**DIAGNOSIS.**—Malaria, malaria toxic nephritis, and quinine hæmaturia.

**TREATMENT.**—Hypo-quinidol for malaria; diuretin for toxic nephritis.

**Tyree's Antiseptic Powder.**—In Tyree's pulverized antiseptic compound the general practitioner as well as the surgeon and gynecologist will find a remedy par excellence. It has been a prerogative of the foreign chemists heretofore to place on the market coal-tar derivatives or synthetic powders to replace the stronger antiseptics. Preparations, each of its own disents, have found a market in this country because there is a demand for substitutes of the stronger antiseptics, such as phenic acid and bichloride of mercury. Mr. Tyree has placed in the hands of physicians a superior antiseptic in a powdered form, of pleasant odor, rapid bactericidal quality, and also of soothing and healing properties. It consists of a combination of alum fifty parts; sod. bor., fifty; phenic acid, five; glycerine, five; with the active principles of gaultheria, eucalyptus, thymol and menthol, the combination making a delicate lavender powder of fine crystalline form and pleasantly penetrating odor, in which thyme and menthol preponderate. Its action, hygroscopic, antiseptic, styptic and stimulating, recommends it for gynecological practice. In vaginitis of simple or specific origin, in gonorrhea, after the genital tract has been washed out, in ulceration of the cervix as well as of all the mucous membranes, it has proven itself valuable, either as a dilute wash or as a more concentrated application. Its use in the sick room, either dusted lightly on the furniture and carpets or exposed in shallow dishes, will accomplish the desired result, and do away with the nauseating odors of many preparations used for the purpose. Those of our readers who are unacquainted with this preparation, and who desire to test its efficacy in indicated cases, can secure literature and powder from Mr. J. S. Tyree, manufacturing chemist, Washington, D. C.

**Ozomoru (Emulsion Oleum Morrhue Comp.).**—This remedy is composed of pure Lofoten cod liver oil, fifty per cent.; C. P. glycerine, fifteen per cent.; alcohol, five per cent.; C. P. guaiacol, three minims; pancreatin, three grs.; hyphosphites lime and soda, ten grs. to the fluid ounce; ozone to saturation; chondrus crispus and aqua distillata, q. s., the whole combined by mechanical admixture into a perfect, permanent, palatable, emulsion, miscible with water or other fluids. It is an absolutely non-secret preparation, and is presented for the consideration of the profession in plain 16-ounce bottles.

"Ozomoru contains nothing liable to decompose. It is the purity of its ingredients, the thoroughness of its pancreatization, the readiness with which it is assimilated, its antiseptic qualities, its freedom from rancidity and all indigestible and irritating substances, its permanency under all climatic conditions, its palatability together with its great force-producing and tissue-building properties that have caused ozomoru to be justly regarded as the standard preparation of cod liver oil."

**Dermatitis Genitalia.**—(By W. W. Cherry, M. D., of St. Louis.) Dermatitis of the nates and genitalia is a disorder very frequently met with by the general practitioner, especially among children, during the hot seasons.

This disturbance of the skin is usually brought about by external irritation; the most common causes being acrid discharges, as gonorrhœal and leucorrhœal; and in the case of children, decomposed effete matter consequent upon the neglect of their proper bath and number of changes, and the resulting decomposed constituents of the urine or fecal diarrhœal discharges impregnating the skin, as it were, and thereby incite the inflammatory condition.

Of other causes may be mentioned irritating powders, or material used as dusting powder, becoming decomposed on coming in contact with excrementitious matter and result in an irritating substance, while some material used for the purpose becomes a continuous mass, acting as an irritating plaster. Rancid or strong ointments, such as the various salves containing carbolic acid or some of its derivatives, are frequently the inciting causes.

This dermatologic disorder, as it is usually met with in children, may be described as varying from a slight inflamed condition of the skin in the region to an extremely violent inflammation involving the nates, perinæum and pubic regions as well as the scrotum and penis in the male, with more or less œdema.

I usually plan my treatment in these cases with a view to relieve the patient as speedily as possible, thus alleviating the patient of considerable torture, and pacifying the fears of anxious parents. I therefore direct my treatment to the local condition at once.

I aim first to thoroughly remove the local irritation. I order the affected parts well soaped with dermapurine soap, using warm water having in solution a teaspoonful of bicarbonate of soda to the quart of water, giving particular instructions to use mollient material with which to sponge the parts (absorbent cotton being preferred), and direct with emphasis that the soap shall be completely washed off with a fresh solution of baking soda water. By this procedure the fatty, ammoniacal, and other excrementitious substances are emulsified and removed. The following mixture may be applied:

℞ Aquæ calcis,  
 Ol. Olivi..... aa ʒ iij  
 M. et Signa.—Shake well before using. Saturate a soft linen cloth or absorbent cotton and apply over the affected area.

This application must not be allowed to become dry, the mixture



being poured on repeatedly and the cloth changed from time to time. Relief is usually complete shortly after the first application.

If, after the acuteness has passed away, there remains an eczematous condition with itching, the following formula usually gives most satisfactory results:

℞ Dermapurine ..... ʒ i  
 Aquæ calcis ..... ʒ ij  
 Shake well before using and sponge over the affected parts four to five times a day.

Obviously the general health and hygiene of the patient must be looked to. The proper kind of napkin and frequency of change are factors of paramount importance. In cases of diarrhœa it is well to flush the lower bowels once to three times a day, using from one to four quarts of water containing in solution a teaspoonful each of bicarbonate of soda and borax to the quart. In cases predisposed to eczema, I usually prescribe:

℞ Syr. scialæ comp ..... m. xxx  
 Pepsinæ puræ ..... gr. vj  
 Liq. pot. arsenite ..... m. v  
 Glycerinæ ..... ʒ i  
 Syr. tolut ..... q. s. ad ʒ ij  
 M. et Signa.—Give a teaspoonful three times a day (for a child from six to eighteen months of age).

Many children do not need any internal medication, the cause being entirely local.

**A New Static Machine.**—The writer recently called on Frank. S. Betz, of 35 Randolph street, Chicago, and was shown his new semi-sectorless Wimhurst static machine.

Of the several new principles involved in this machine the most important feature is that the plates, instead of one of each pair being stationary, *move in opposite directions to each other past the collecting combs*, and as the surface of each of them is equally charged, *double the quantity of current* is generated than would be if one pair were stationary. The mechanism necessary to turn each plate of a pair in an opposite direction to its mate would at first thought seem complicated, but by an ingenious arrangement this has been reduced to the most simple form of mechanics; and the bearings, being of the well-known ball-and-socket type, require neither oiling nor adjustment to take up wear.

A heavy rain was falling at the time Mr. Betz set the plates revolving and the atmosphere of his office was laden with moisture, but within a few minutes the machine was producing sparks fifteen to seventeen inches long. Our readers interested in static machines and x-ray work will find it worth their while to write Mr. Betz.

**Diagnosis of Gall Stones by Skiagraphy.**—The recent skiagraph taken of Gov. Tanner by Mr. Fuchs, of Chicago, confirming the diagnosis of obstruction due to gall stones, has excited considerable interest on account of the prominence of the patient.

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## CONCERNING CLINICAL LABORATORIES.

A new factor in the field of medicine of to-day is the clinical laboratory for the investigation of problems of pathology, bacteriology and medical chemistry, which are met with in connection with our clinical cases. The establishment of these laboratories in up-to-date hospitals seems to be fairly well carried out. The supreme importance for their existence seems also to be fairly well impressed upon the profession. From time to time a voice is heard in protest against this late addition to clinical diagnosis, but fortunately the tide of progress is too strong to be stemmed by these "voices of the night," for they certainly emanate from sources which are lamentably buried in the darkness of ignorance and dogmatism. To those of us who are accustomed to enjoy the privilege of having our bedside work aided and supplemented by this laboratory assistance, there need be no plea for their support; but for those who are unacquainted with the immense benefits accruing from this method of diagnostication, a word or two is in order. It is an incontrovertible fact that the diagnosis of many diseases cannot be positively made from clinical symptoms alone. It is also a fact that by laboratory work the clue to the situation can often be found; for instance, Widal's test in typhoid fever, the search for the tubercle bacillus in renal tuberculosis, the malarial parasite, the diphtheria bacillus, etc., etc. Many more examples might be cited. The arguments advanced by many against the foundation of these laboratories are in the nature of too great expenditures of money for their establishment, equipment and support. Yet we know that for a few hundred dollars all neces-



sary apparatus can be purchased, and for a small annual sum the laboratory can be easily supported.

Besides the immense benefits which redound to the practitioner from this assistance, the work in the laboratory offers a magnificent school of instruction for the younger men in the profession, such as an interne in the hospital. It encourages him to do careful and conscientious work; supplements his clinical education; makes him acquainted with recent literature, and, in short, develops a class of medical men as original workers. Thus, the clinical laboratory is an institution which has nothing but good arguments in support of its existence. And it should be an institution to be supported by every working member of the profession.

### CROSS-INFECTION.

Cross-infection means the contraction of a second infectious disease by a patient already under treatment for one of the other diseases of the same class. It seems a rule, for instance, that patients with measles and varicella readily take scarlatina on exposure. It is in the nature of a conferred susceptibility for the toxins of one variety of bacteria—a symbiotic phenomenon, we might say. Cross-infection occurs frequently in fever hospitals. Claude B. Ker, in the *Edinburgh Medical Journal* for June, 1900, gives some interesting figures along this line. In the City Fever Hospital of Edinburgh, during 1899, Ker noted that 3.67 per cent. of the 1034 patients suffering from scarlatina contracted measles, and that 0.38 per cent. contracted varicella. Out of 331 patients suffering from measles, 2.4 per cent. contracted scarlet fever; and out of 147 patients sick with diphtheria, 2.7 per cent. took scarlet fever.

This cross-infection may be explained variously: the condition may arise from the fact that a wrong diagnosis was made before entrance into the hospital; because the patient was suffering from two diseases when admitted, only one of which had been diagnosed; or because a patient was admitted with one disease while incubating another. These three explanations serve to show us how this cross-infection takes place. With the possible exception of the first condition, we can see that the matter of prevention of this occurrence is practically a matter of impossibility. It is a condition beyond us, so far as prevention is concerned. Our efforts, accordingly, must lie in the direction of early recognition of the secondary infection, and a tiding of the patient over its course.

### IS ALCOHOL A FOOD?

The question of whether or not ethyl alcohol is a food has been much discussed of late by medical men in America. Contentions both affirmative and negative have been made. Most of the opinions have been formulated on mere sentiment or preconceived ideas as to the usage of alcohol as a beverage and food. Of course, the gentlemen from Kentucky have been loud in their protestations that alcohol, especially in the form of whiskey, is a food "of the first water." We are pleased to see that Dr. Hall, of Chicago, has collected all the known facts of physiology and physiological chemistry bearing on this subject, and has drawn most rational conclusions therefrom (*Jour. A. M. A.*, July 14th). He drew up a table, on one side

of which were placed the properties of a food; on the other, the effects of alcohol on the organism. The main points of difference between a real food and alcohol are: (1) A food is constant in its effects; alcohol is not. (2) Habitual use of alcohol produces desire for more; not so with a food. (3) Total abstinence from alcohol, after habitual use, will be followed by a derangement of the nervous system; not so with a food. (4) Alcohol is rapidly oxidized in the body; food is not. (5) Alcohol is not stored up in the body; a food is. (6) Alcohol is the product of decomposition, while foods are the products of constructive activity of protoplasm. (7) Alcohol is an excretion; food is not. (8) The use of alcohol is followed by a reaction; that of food is not. (9) Alcohol produces decreased activity of muscle and brain cells; food increases it. (10) The use of alcohol is followed by a decrease in the secretion of  $\text{CO}_2$ ; that of food by an increase. (11) The use of alcohol decreases activity of brain and weakens the muscles; food makes the brain more active and strengthens the muscles.

It can thus be seen that the effects of alcohol are quite different from what we get when we administer a food to the animal organism. In no sense of the word, therefore, can alcohol be said to be a food. It is entirely wanting in those qualities that constitute the primary elements of a food, and it is, furthermore, possessed of qualities which are highly objectionable in a food.

#### ANOTHER PROTEST AGAINST A PROTEST.

Following in the wake of our esteemed friend, the editor of the *Philadelphia Medical Journal*, the writer wishes to protest against the blatant oratory of a member of our profession who recently delivered an address on "Some of the Evils in the Medical Profession" before an intelligent body of medical men. We sincerely trust that the effort was barren of result so far as convincing the aforesaid learned body that the evils pointed out by the orator were really evils. We are confident that the audience, as a whole, was *not* influenced toward the speaker's ideas, unless the effect of his eloquence (about which we know nothing—not being present) moved them, even as that of the "boy orator" moved that of the Democratic conventions of 1896 and 1900. To get to the point: the speaker spoke disparagingly of the utility of laboratory methods in modern medicine. We who have had the benefits of this method of clinical diagnosis know full well the grievous error made by the "orator" in this regard. Then, again, he referred to the "spectacle fad." Dr. Gould has replied to that unjust charge against modern ophthalmology, and 'tis needless for us to add further censure for this foolish, senseless, and unjust charge.

It is the writer's opinion that every conscientious member of our profession knows intuitively what evils are oppressing us, and what measures are at hand to avert them. It is poor taste, to our mind, to repudiate the inestimable benefits which accrue to our profession from laboratory diagnostic methods and from scientific ophthalmological therapy.

We protest against this attempt to cast discredit on modern medicine. There are evils, it is true, in our profession; but we venture to assert that most of them are the results of the "old-fogy" ideas and teachings which have been promulgated by just such men as the



orator of the day or that occasion. Fortunately, we feel sure that the seed of his oratory has fallen on barren soil, and that no one has been convinced that laboratory work or recourse to skilled ophthalmological consultation should be struck off the list of modern medical accomplishments. Let us exclaim NOW, with pride: "Sound the loud timbrel o'er Egypt's dark sea, Jehovah hath triumphed; his people are free." We have ample justification for exultation at what we have accomplished in this present epoch of medicine! But, 'tis sad, in troth, to feel that there are some among us who mistake advancement for retrogression, benefits for evils, and who shower ridicule where naught but praise should fall!

### MOSQUITOES AND MALARIA.

With the work of Surgeon-Major Ross of the Indian Medical Service, a new light was thrown on the manner of dissemination of the disease malaria. Prior to that time it was thought that a person contracted malaria by absorbing the parasite through the lungs. In fact, no definite theory in explanation of the spread of the disease was really advanced, as we knew nothing of the life habits of the plasmodium malariae outside of the human body. It is now definitely known, however, that the mosquito is able to remove the parasite from the body; that the parasites develop by sexual methods in the stomach-wall of this host; that thence passing into the venemo-salivary gland, the parasite, in the form of sporozoids, may be inoculated into uninfected individuals and produce the disease. This has been established by numerous investigators. The parasite undergoes an asexual cycle of development in the human body, and a sexual cycle in the body of the mosquito of the genus Anopheles. Mosquito-bites are the only means of transmission of the disease. Mosquitoes are always present in a malarial district, or else the cases occurring in such a district are imported. The mosquito acquires the parasite only from man. Thayer says that the early spring cases are all relapses, which decrease in number in June, and the new cases begin in July, when the Anopheles begins to bite.

The ubiquitous mosquito, as we have seen, is now recognized as a frequent disseminator of disease. There are several varieties of mosquitoes, which are concerned with carrying malaria. The genus Culex is one variety, and the genus Anopheles another. There are many points of difference between them. The eggs of the Culex are deposited in a raft-shaped clump, while those of the Anopheles are distinct. The larva of Culex has a big head and a small body, while that of Anopheles has a small head in proportion to the body. The larva of Anopheles is dark, while that of Culex is light. The respiratory siphon of the Anopheles is short, while that of Culex is long. The Anopheles larva feeds on the surface of the water, while the larva of Culex feeds on the bottom, coming to the top of the water periodically to breathe. The note of Culex is high-pitched, while that of Anopheles is about four tones lower.

The assiduous labors of Grassi, Marchiofava, Ross, Munson, and others, have cleared up this problem, and we can expect that their findings will be supplemented by practical efforts at prophylaxis. Prophylactic means should be forthcoming whereby the "pestiferous" and pestilential mosquito, be he "Culex" or "Anopheles," can be wiped out of existence, and so malarial fever made to disappear from our list of diseases.

### THE ENDOWMENT OF MEDICAL COLLEGES.

President Keen's address before the annual meeting of the American Medical Association was mainly devoted to the necessity for liberal endowments of medical colleges. It was shown by Dr. Keen in his masterly address that the cost of equipment and support of a thoroughly up-to-date medical school was enormous, and to meet the requirements of such expenditures liberal endowments must be forthcoming. It is a fact that hospitals are often too liberally endowed, whereas the medical school which prepares the medical student for service in such hospitals is too often inadequate in its means, and so must turn out illy-qualified practitioners. It's just like "putting the cart before the horse" to endow hospitals and not medical schools.

Then, again, as President Keen rightly says, the function of the medical school is not limited to the imparting of existing knowledge. Research work should come into every medical school's curriculum. Employment should be given to the young men whose desire it is to pursue scientific investigation. This can only be accomplished through the medium of endowments. In short, medical schools certainly are in greater need and are more deserving of endowments than any school or institution that we can conceive of at this time.

### PROGRESS IN SURGERY.

Frederick Treves, in his address on surgery, before the British Medical Association, gave a good picture of the modern surgeon simply by contrasting him with the surgeon of one hundred years ago. When we think of what constituted surgery at that time, and then think of the great art of to-day, the progress made seems almost stupendous. By the very nature of his calling, the "pre-anesthetic" surgeon was a cold-blooded wretch. It was his work to cut through living flesh quickly and with no regard for the pain which he was inflicting. He carried infection from one patient to another. From his ignorance of matters pathologic, he was a poor diagnostician, and consequently an unsuccessful surgeon. It is really marvelous that any good results at all followed the performance of operations by him. Happily now all is changed.

We have to-day advantages which our predecessors did not possess. We have men to do surgery who have been especially trained for it; men fully capable of using the innovations conservatively and wisely, as they are introduced from time to time. And when we say that in surgery, as in all things, it's a case of the "survival of the fittest," we predict what we think is not too Utopian for the future of this specialty. It *must* come to pass that only those who have been specially trained can become qualified as surgeons.

### APPENDICITIS AND PURGATION.

In a recent article on appendicitis, the author expresses himself vigorously against purgation in this disease. This is a matter of such serious aspect that a few comments seem necessary on the subject. There are some cases of appendicitis in which purgation might have been the cause of a perforation with ensuing general peritonitis. But it is questionable whether in those cases perforation and peritonitis would not have taken



place without the administration of purgatives. Considering the work done by medical treatment of appendicitis, it is safe to state that brisk purgation by antiseptics and salines which do not cause excessive peristalsis, but lead to a copious serous effusion, is not only desirable, but leads to recovery without surgical interference. Appendicitis cannot be treated on the same plan in all its phases. For a uniform treatment the disease has too many aspects, as well clinically as pathologically; but there is no stage of the disease in which it is desirable or advisable to lock up the secretions, and to paralyze the scavenger of the abdominal cavity, the omentum. Cases of appendicitis in which the omentum is not found in the vicinity of the trouble are graver and more often fatal than those in which the omentum has begun its absorbing and walling-off process. Both of these functions of the omentum are facilitated by purgatives.

From a prognostic standpoint, a case of appendicitis in which the bowels have acted freely after the beginning of the disease is more favorable than one in which there is obstinate constipation. As a rule, in all but the fulminating cases, after an evacuation of the bowels, improvement of all conditions ensues, the pain is lessened, as is also the distension of the abdomen and the rapidity of the pulse; and if such a case is operated upon, the recovery is more rapid and more certain.

Not to speak of cases that are operated on without any medical interference, can anything be said in favor of splinting the bowels with opium? It is true, frequently we get complete stoppage of peristalsis, but, instead of this phenomenon, we have the ominous distension of the bowels with gas, an absorption of toxins plus the effect of the opium leads to increased vomiting and increased writhing, not to mention the disagreeable subjective symptoms, as thirst, parched throat and mild delirium, which cannot be differentiated from the delirium of sepsis.

Considering the effects of purgatives and opium-splinting, we are of the opinion: Operate when the diagnosis is made. When you do not operate, purge. When you do operate, purge. S.

### MEDICAL MATERIAL IN ST. LOUIS.

The medical colleges of St. Louis have all adopted the four-year plan of medical education, by which they expect to raise the standard of the profession. While the medical schools of St. Louis, as schools, are equal to the best in the United States, it is a grave mistake to suppose that the four-year course will do wonders for the medical practitioner. Owing to the way in which clinical material is divided amongst a large number of colleges, the year set aside for clinical work will be nearly a total loss. St. Louis is not large enough a city to supply its many colleges with clinical material; and the student at the end of the fourth year will probably be a better trained and better rested man than the three-year graduate, but with as little practical experience as the latter. In order to bring the standard of the medical college up to the highest notch, and to equalize the opportunities of the St. Louis student with those of the Chicago and New York student, there should be an amalgamation of our colleges into two large and efficient schools.

The private enterprise college must go; so should the college run by scheming and haggling cliques, who cut the rate and offer inducements to their graduates for the catching of patients. It is high time that the pro-

fession in St. Louis should awake to the recognition of the fact that colleges are endowed for the benefit of the public, and not for the benefit of wily specialists. The daily press teems with accounts of the squabbles of colleges, with quibs about diploma-mills and the like. How much truth lies in these statements? How many of the St. Louis colleges are the results of faculty fights and individual intrigue? How many men are yearly graduated with an average below requirement, simply not to hurt the standing of the school amongst its devotees? The standard of the medical profession will certainly remain below par as long as colleges are run irrespective of the clinical material they control, and as long as the competition amongst the various schools leads to shady methods and unfair distribution of diplomas.

### NEPHRITIS FOLLOWING SCARLET FEVER IN CHILDREN.

Were it not for the nephritis following scarlet fever in children, this disease would not be more serious than measles. By causing the nephritis, scarlet fever becomes the most vicious disease of childhood. It should be our endeavor to prevent as much as possible this complication, as well as to subject it to the most rational routine treatment when it has made its appearance.

PROPHYLAXIS.—Whether the nephritis is caused by an invasion of the renal vessels by the bacillus of scarlet fever, or whether by the excretion of toxins through the kidneys, is not entirely decided; but to judge from analogy in other infectious diseases and from the physiological action of the skin, it is fair to assume that the nephritis of scarlet fever is due to an excretion of toxins by the kidneys (not to enter upon a discussion of the albuminuria of the first few days, which is also a toxin albuminuria). It should be our object to alleviate the work of the kidneys prior to the appearance of the albuminuria, and for this reason pay strict attention to several factors:

*Firstly.*—The temperature of the room, which should always be kept at 80°.

*Secondly.*—The food of the patient and the amount of water administered. None but liquid food should be allowed in the six weeks following the attack, and the amount of water given should far exceed the food; water in the shape of soup, milk, lemonade, barley water, carbonated water or sugar water should be administered by tablespoonful to infants, by glassful to larger children, at regular frequent intervals. Two baths daily are not to be despised as a method of administration of water.

*Thirdly.*—The bowels of the patient should be constantly attended to. By mild purges, administered daily without fail, we should try to secure two to three watery evacuations daily for the first six weeks.

*Fourthly.*—The skin. It seems to me that it is in the hygiene of the skin where we have not only erred, but sinned. There is a large hue and cry raised about the skin in scarlet fever. "Anoint the skin—anooint the skin!" Alboline, vaseline, oil of olive, oil of eucalyptus, bacon, beef fat, are all recommended, besides many proprietary smears, to grease the child with during the attack of the fever and during desquamation. What is it all for? Who is benefited by it? Is the danger of infection lessened by it? Hardly. During the first twelve days there is no



desquamation; later on the greasy skin-flakes stick to the furniture and walls longer than the dry flakes, and are inhaled as easy. There are other and better methods to counteract the danger of infection by the floating skin particles. On the other hand, the greasing is of no benefit to the patient so far as his eruption is concerned, and of absolute danger as far as his system is concerned. The eruption itself is harmless; it is simply an expression of the disease, and the disease cannot be reached by any local application to the eruption. By anointing the skin of the little patients we abolish a large toxin excretory surface. If you cover a man with pitch, you cause his death by auto-intoxication in a short time. Pitch stays on; it does not need renewing. On the scarlet fever patient you renew the coat of vaseline or other grease twice daily. The greases used and renewed are as efficacious as pitch in retaining the excretions. Instead of stimulating the excretion of toxin, it is paralyzed. Truly, we need a more rational method of treating the skin in scarlet fever, and the six weeks following it. A very rational one seems to be the following: The patient is bathed twice a day in tepid water, washed with castile soap, and, after the eruption has faded, rubbed vigorously while in the bath. For the rest, he is completely dressed in closely-woven woollen clothes, with stockings. These are boiled daily. It would be best to also make the patient wear gloves until desquamation is complete. In lieu of this, there is no objection to leaving his hands naked or having them greased. A better attention to the skin will reward us with less frequent nephritides, or, if they occur, with a less severe type of the trouble.

**TREATMENT.**—The scarlatinal patient should not leave his room for six weeks, and then only in warm weather. In the meantime, his urine should be carefully examined every second day.

On the first appearance of albuminuria, treatment for nephritis should be instituted, and should be vigorous, whether the case seems severe or light. The patient's bowels must be caused to move by saline purgatives and enemata containing magnesia sulphate; this must be done daily until no albumen appears in the urine.

To counteract the dropsy we have two excellent remedies in calomel and diuretin. Calomel given in one-tenth grain dose hourly for forty-eight hours, and diuretin administered in one grain for each year of patient's age, three times daily, will bring about a prompt increase in the urine and diminish dropsy.

The patient should receive a hot pack twice daily, each one lasting one hour. If uræmic symptoms, such as vomiting or convulsions, are present, the packs should be given three times daily.

If heart weakness ensue, one drop tincture of digitalis for each year of patient's age, every three hours should be resorted to.

The anæmia should be attended to with proper tonics, such as the syr. ferri iodidi or elix. ferro-pepto-mang.

The diet should consist exclusively of milk, barley water, and a large supply of water, no matter whether dropsy or uræmia be prevailing.

It is not to be advised to treat the convulsions of uræmia with chloroform and chloral or kali brom.; yet the chloral and kali brom. can be administered without causing any harm, and if given in combination with diuretin, pot. citrate or caffen, they certainly have a splendid diuretic effect.

## ORIGINAL ARTICLES.

### REPORT OF THE TREATMENT OF ANEURISM WITH GELATIN INJECTIONS.<sup>1</sup>

BY H. L. NIETERT, M. D., of St. Louis, Missouri,  
Surgeon in Charge of the St. Louis City Hospital.

THE study of the effects of a solution of gelatin on the coagulability of the blood was first made by Daster and Floresco. They observed that the injection of gelatin into the blood vessels of dogs and rabbits caused a rapid coagulation of the blood. Based upon this experimental work, Lancereaux, of Paris, first introduced the method for the treatment of aneurism with good results.

With the view of giving the method a thorough trial, five cases were selected at the City Hospital during the past year, one of which was an aneurism of the left subclavian artery; and four were aneurism of the aorta. Cases in which the test was made were carefully selected for that purpose, only those being taken in whom the most favorable condition existed for the formation of clots. The sacculated variety were therefore chosen, and only those in which the sac presented in the anterior chest wall, making it easy to observe any change in size, pulsation, expansibility and consistency of the tumor.

In each case the patient had been subjected to a thorough internal medication with iodide of potash; blood pressure had been reduced by venesection, dry diet and absolute rest in bed, with no permanent benefit.

Following the advice of Lancereaux, two grains of white gelatin were dissolved in 100 cc. of a seven per cent. solution of sodium chloride and sterilized. In the first two cases, as high as 150 cc. were injected subcutaneously every day until as much as 760 cc. were injected. In the other three cases small amounts were used for injections, but they were continued daily, until in one case 2250 cc. of the solution were injected.

SYNOPSIS OF CASE 1.—Laborer, forty years of age, white; entered the hospital with a large pulsating tumor in upper anterior portion of the thorax, extending from the middle of right subclavicular region down to a point corresponding with the sixth rib in the left mammary line. This measurement, which was the largest diameter of the tumor, was fourteen inches. The pulsation was most marked at the center of the tumor, at a point corresponding to junction of fourth rib with sternum. Patient stated that he was suffering great pain in right chest, extending down right arm; also had a troublesome cough, dyspnoea and difficult deglutition. Inspection showed superficial veins all over chest, distended. Tracheal tugging was plainly noticed. Expansile movement of tumor clearly noticeable. Sonorous rales were heard over both lungs; a distinct bruit was audible over entire tumor area; heart dullness and tumor dullness merged into each other. Apex beat in sixth intercostal space, one inch to left of mammary line. Nothing abnormal about heart sounds.

<sup>1</sup> Published through courtesy of Dr. Max C. Starkloff, Health Commissioner, St. Louis, Missouri.



The gelatin injections in this case were administered subcutaneously, over a period of fifteen days, in the quantity as indicated by the table below:

DATE OF INJECTION.	AMOUNTS.	DAILY HISTORY.
July 14, 1899.	50 cc.	
July 15, 1899.	104 cc.	
July 16, 1899.	112 cc.	Feels less pain in aneurism, breathes easier. No difference in the tumor.
July 17, 1899.	118 cc.	Patient complaining of severe pain at site of injection.
July 18, 1899.	None.	Injections were discontinued on account of pain at site of injection.
July 21, 1899.	80 cc.	
July 22, 1899.	64 cc.	Patient has less pain in aneurism, coughs less, but has severe pain at site of injection.
July 26, 1899.	40 cc.	Injection discontinued till the 26th on account of pain at site of injection.
July 27, 1899.	40 cc.	
July 28, 1899.	120 cc.	
July 29, 1899.	38 cc.	Feels much improved and rests very easy.

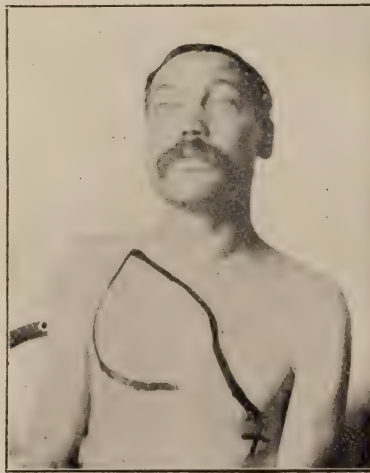


FIG. 1.—Shows area of pulsation bounded by dark line. Largest measurement over area 14 inches.

A total amount of 766 cc. were injected. Injections were discontinued from July 17th to 21st, and from the 22d to the 26th, on account of excruciating pains that patient experienced at seat of injections. During period of injection, patient stated that he had less pain from tumor, breathed much easier and coughed less, but at no time was any change noticed in the size or expansibility of the tumor.

On August 25th patient died, following an attack of hæmoptysis.

Post-mortem examination, made under the direction of Dr. Bartlett, revealed the aorta to be the seat of a marked arterio-sclerosis. A large sacculated aneurism was found connected with the ascending aorta. A communication was found between cavity of aneurism and a large bronchus in right lung. Bronchial tubes were filled with blood, and the patient had evidently died of rupture of aneurism into bronchus.

Aneurism was about the size of a man's head. A careful examination of the walls of the aneurism revealed large, firm, organized clots lining the inner circumference of the sac. Clots consisted of numerous layers that could easily be separated and had evidently formed at different periods of the disease. The organized tissue was about one and one-half inches in thickness. The clot was the largest I ever saw in any aneurism, and was undoubtedly due to a great extent to the action of the gelatin.

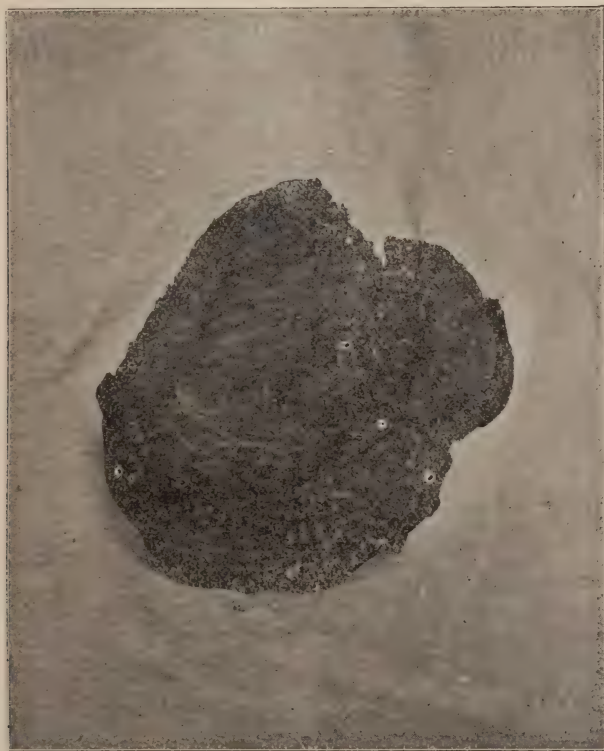


FIG. 2.—Shows organized clot of above aneurism.

SYNOPSIS OF CASE NO. 2.—Patient was a barber, fifty-three years of age; entered hospital June 6, 1899, complaining of dyspnoea and sharp lancinating pains over heart. He stated that two months prior to entering, during a spell of coughing, he noticed a tumor mass pulsating below the right clavicle. When patient entered hospital had severe attacks of coughing and was unable to make any exertion. Heart apex beat in sixth intercostal space and left mammary line. Pulsating tumor mass felt in right chest, near junction of clavicle and sternum, and was about two and one-half inches in diameter. Heart dullness enlarged to left and downward. Tracheal tugging marked. No difference noticed in the two radial pulses. Second heart sound accentuated. Over sternum a blowing respiratory sound could be heard, and there was evidence of pressure on trachea. A slight bruit and reduplication of heart sounds were heard over the tumor. Gelatin injections were given as follows:



DATE OF INJECTION.	AMOUNTS.	REMARKS.
June 23, 1899.	100 cc.	
June 24, 1899.	150 cc.	
June 25, 1899.	130 cc.	
June 26, 1899.	50 cc.	Patient had a chill followed by high fever.
June 27, 1899.	50 cc.	Chill, followed by temperature of 101.
June 28, 1899.	50 cc.	Chill, followed by temperature of 105.
June 29, 1899.	None.	Temperature 102. Injections discontinued owing to severe pain at seat of injection and fever; patient also suffered severe pain in aneurism, dyspnoea and headache.
June 30, 1899.	30 cc.	Site of injection very painful.
July 1, 1899.	50 cc.	Patient feels much better; no more pain in aneurism; only pain is at seat of injection.

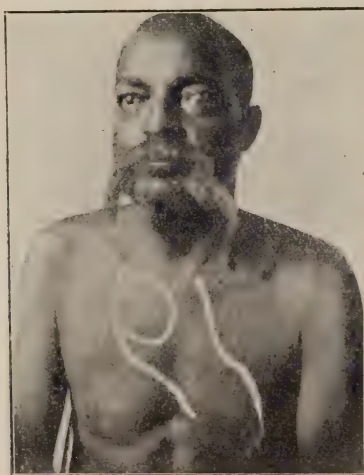


FIG. 3.—Shows area of pulsation included in 'small circle.

Total amount of gelatin injected, 660 cc. During the period of treatment of this case no change was at any time noticed in the size of the tumor, but there was a marked decrease in the expansibility and pulsation.

Patient died July 29th. Post-mortem examination showed tubercular cavities in both lungs, also marked œdema of both lungs. Aneurism had its origin in the transverse aorta, extending in front of the trachea. Sac contained organized clot, almost filling entire cavity. Patient died of œdema of the lungs, following aneurism and tuberculosis.

SYNOPSIS OF CASE NO. 3.—A painter, age forty-one, with history of syphilis; entered hospital January 15, 1900, with a small pulsating tumor, size of a hen's egg, in the anterior thoracic wall, to the right of the sternum and on a level with the third costal cartilage. Tumor was tender on pressure and had expansile movements synchronous with the heart beat. Percussion over lungs showed dullness over upper portion of right lung and hyperresonance over left lung. Patient was a large plethoric man, and venesection was performed on two occasions for the purpose of reducing blood pressure. Patient was put to bed and a thorough course of treatment with iodide of potassium begun. On February 6th patient

complained of pain in right arm and chest, had considerable dyspnœa, and could not swallow coarse food; could only rest on right side. Tumor this day was much larger and more prominent than when patient entered the hospital.

Gelatin injections were commenced February 6th, and continued to March 24th; daily injections of 50 cc. each were administered over a period of forty-six days, thus a total of 2300 cc. were administered. On February 8th patient felt much better, coughed less, but there was no change in the size and consistency of the tumor until February 14th, when a marked decrease occurred in the size of the aneurism. On February 20th patient again had severe pains in the aneurism. Examination of chest showed marked harshened respiration over right bronchus. On March 20th there was considerable dullness on percussion over right chest. Reduplication of the heart sounds heard over right lung. Apex beat entirely absent, and a harsh respiratory sound heard over heart area. Diagnosis of pneumonia of the right lung made. Patient died March 25, 1900.

Post-mortem showed a consolidation of the lower lobe of the right lung, and that it was in a stage of gray hepatization. Aneurism of ascending aorta was found, size of a child's head. A large organized clot was found on the posterior wall of the sac, about one and one-half inches in thickness. The other complications present were: Acute parenchymatous nephritis, cirrhosis of the liver and myocarditis.

SYNOPSIS OF CASE NO. 4.—Patient thirty-four years of age; entered the hospital November 26, 1899, with a history of having been a heavy drinker. He stated that two months previous, while walking, he felt something give away in his chest, and soon noticed a swelling appearing over center of breast-bone. Patient had a very troublesome cough, dyspnœa, palpitation of the heart, dizziness, and was hoarse at times. He also had a dull, boring pain in tumor, and difficult deglutition. Patient was fairly well nourished, veins over neck and chest dilated. A tumor was clearly visible over sternum, on level with third rib, which pulsated. A heart apex beat found in fifth intercostal space in left mammary line. An expansive pulsation was noticed over tumor; tension in the right radial pulse was greater than that in the left. Circulation in the fingers very poor and fingers deformed. Heart and lungs normal.

A thorough treatment with iodide of potash with rest in bed was given until February 6th, without any improvement. Daily injections of 50 cc. of gelatin were begun on this date. On February 8th, as a result of the treatment, patient showed marked improvement, coughed less and rested well. On February 13th aneurism somewhat smaller and less painful. March 4th, patient much improved, pulsation and expansibility in tumor not so marked. After injection of 2250 cc. it was discontinued on March 25th. May 31st, patient was feeling well, tumor was quite small, pulsation and expansibility less marked; breathing was normal, no cough present. Patient left the institution at his own request.

SYNOPSIS OF CASE NO. 5.—A patient, forty years of age; admitted December 8, 1899, with the history of being an alcoholic. Five months prior to entering hospital patient experienced a tingling of left arm, followed by a gradual swelling of the arm. Examination of patient showed marked œdema of left arm; a clubbing of the fingers. Nails were curved,



showing a disturbance in the nutrition of the fingers. Nails and skin of left hand were darker than that of right; more evidence of imperfect circulation. A small tumor was visible in left subclavian region, about the size of a hen's egg; tumor was expansile, and marked pulsation in it could be felt. A systolic bruit could be heard over the tumor and down the vertebral column as far as the twelfth dorsal vertebra.

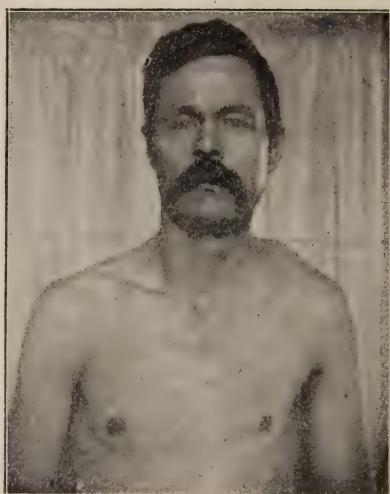


FIG. 4.--Shows pulsating tumor over left shoulder.

After a thorough treatment with iodide of potassium, as in the former cases, gelatin injections were begun March 3d; 50 cc. of the solution were injected subcutaneously, daily, over a period of fifty-two days, until a total of 2600 cc. were used.

During the course of treatment the tumor grew gradually worse, and arm became more swollen. On June 10th tumor had increased in size to that of two fists, and was most prominent in supraclavicular region. Skin became very tense and shiny over the tumor, and on June 24th the aneurism ruptured externally and patient bled to death.

Post-mortem examination showed a large aneurism sac, connected with left subclavian artery. The first rib had been eroded in two, and left clavicle was eroded to the extent of half its thickness. Aneurism sac was filled with large organized clots, that were firm and tightly adherent to the sac.

#### CONCLUSIONS DRAWN FROM OBSERVATIONS ON GELATIN INJECTIONS FOR ANEURISM.

*First.*—That great pain at site of injection often follows introduction of a large amount of the fluid.

*Second.*—The gelatin being a good medium for the development of micro-organisms, great care is required to keep it sterile.

*Third.*—The symptomatology is greatly improved in every case; the pain is usually lessened, patient breathes easier and shows less pressure symptoms on important surrounding organs.

*Fourth.*—In most cases tumor becomes more firm and expansibility less marked.

*Fifth.*—It is likely that great good can be effected by the gelatin injected in aneurism of the smaller vesicles.

*Sixth.*—Post-mortem examination in every case shows large organized clots, filling the cavity of the aneurism, which were undoubtedly due in a great measure to the gelatin.

## INJURIES OF THE EYEBALL, WITH REPORT OF CASES.<sup>1</sup>

BY ELLET O. SISSON, M. D., of Keokuk, Iowa,

Member of the Ninth International Congress of Ophthalmologists.

INJURIES to the eyeball can be conveniently divided into four classes. The first class of cases embraces those injuries to the cornea or other regions which are not accompanied by incarceration or prolapse of intraocular structures, and also those cases containing foreign bodies, when it is deemed inadvisable to extract them.

The second class of cases are those which offer no probability of any degree of vision being saved, and in which enucleation is indicated. Eyes injured to the extent of vision being destroyed will, if not enucleated, cause the patient great loss of time and endless suffering, and they will rarely look as well as artificial eyes. But by far the greatest reason for enucleation is the danger of sympathetic ophthalmitis in the fellow eye.

The third class of cases embraces those injuries which are accompanied by incarceration or prolapse of intraocular structures, and these are decidedly the most difficult to handle.

The fourth class of cases are those in which there is a foreign body present in the eye, which it is deemed advisable to extract.

In dealing with injuries of the eyeball we must take into consideration the physical and chemical characters of the wounding body, which is of more concern to us than is the variety of foreign bodies which have inflicted such injuries. It is plain that wounds which have been caused by sharp-edged articles are accompanied by less reaction and will heal more kindly than those produced by a substance with an uneven, irregular surface, which will cause a wound of more or less lacerated character. The chemical composition of the wounding material is of less moment, except when the foreign substance remains in the eye. Any material which is subject to chemical action by being kept constantly in contact with the fluid elements of the body, produces additional reaction to that of the primary injury, though it may not manifest its action until some subsequent period.

The cases that I present are such as are usually found on the record books of ophthalmic surgeons, and there is nothing original in the treat-

<sup>1</sup> Read before the twenty-ninth semi-annual meeting of the Eastern Iowa Medical Association, at Burlington, Iowa, June 28, 1900.



ment of them. My principal object in reporting them is to show the importance of early and proper treatment of eye injuries. In many instances useful vision is preserved and eyeballs are saved which otherwise would be lost.

CASE 1.—P. J., male, aged about twenty-five years, was shot in the head. Bullet entered ala of the nose on the right side, coursing upward and to the right, fracturing the right nasal bone. It then passed through the posterior half of the eyeball and lodged in the deep tissues of the orbit. There was great swelling and ecchymosis. Patient was in a semi-comatose condition. An enucleation was made and the bullet extracted. An interesting feature of this case was that it was complicated by infection. The patient was taken directly from the operating table to the jail, as he was a criminal. Here, amidst the most unhygienic surroundings that could possibly exist, he was compelled to remain, and in spite of the utmost care the wound became infected. There was great swelling of the soft tissues of the orbit and an accumulation of pus, which burrowed through the upper lid, leaving a good-sized fistula. Healing took place soon after the formation of this opening, and patient made a good recovery.

CASE 2.—M. W., male, aged about thirty; farmer. While quarrying rock a small piece flew up, striking him in the eye. Pain and inflammation followed, and he sought the services of his family physician, who prescribed an eye wash, and told him that it would be all right in a few days. About a week after the injury patient reported at my office with a large central corneal ulcer. I curetted the same, dusting its floor with finely-powdered iodoform. This did not check its progress, so I proceeded to cauterize it, using the actual cautery. Even this did not control it. It went from bad to worse, until panophthalmitis set in, and on the ninth day after his first visit I enucleated the eye. He made an uneventful recovery.

CASE 3.—R. F., male, aged about thirty years; attorney. When a boy he was struck in the eye with a piece of wood. I could not gather from the history as to whether the ball was penetrated or not. At the time the patient reported there was a ciliary staphyloma, and he was suffering from an attack of sympathetic irritation of the good eye. He had such attacks at intervals ever since the injury was received. Performed enucleation, and patient made an uneventful recovery.

CASE 4.—J. G., male, aged about fifty-five years; laborer. While pounding rock a small piece struck him in the eye. As the result of the abrasion an ulcer formed, which rapidly increased in size, and a hypopyon developed which filled the lower half of the anterior chamber. I cauterized the ulcer, using the actual cautery, piercing its floor at the same time, thus evacuating the anterior chamber of its contents—*i. e.*, the aqueous humor and hypopyon. This relieved the excruciating pain, which had been a feature of the case, and the ulcer healed rapidly, leaving a good-sized central opacity. We would undoubtedly have had panophthalmitis with loss of the eyeball in this case, if less heroic treatment had been adopted.

CASE 5.—T. Mac. N., male, aged about thirty-five; clerk. While hunting was struck in the right eye by a deflected No. 8 shot. The shot entered at the sclero-corneal junction. Patient was kept in a dark room

and eye carefully watched. A solution of eserine was instilled daily to keep pupil contracted to prevent prolapse of the iris. The accident occurred November 12th; on the 25th symptoms of irido-cyclitis set in and it was deemed best to enucleate. This was done, and the patient made an uneventful recovery.

CASE 6.—H. B., male, aged about thirty; laborer. While working on the railroad putting in ballast was accidentally struck in the eye by a piece of rock. As the result of the contusion an iritis was set up which was followed by adhesions. Inflammation finally subsided, followed by partial loss of vision.

CASE 7.—B. S., male, aged thirteen years. About a week previous to reporting at the office, one day while engaged in trimming hedge, a thorn struck him in the eye; passing up beneath the upper lid it penetrated the ball at the sclero-corneal junction. His brother, who was working with him at the time, removed it. Patient said the eye immediately inflamed and he suffered considerable pain. When I first saw it there was congestion of the bulbar conjunctiva and an irregular pupil, the iris being attached above. Ruptured lens capsule and an opaque lens. Temperature was normal. Vision: light perception. No pain on pressure. Treatment: Atropine and a boracic acid wash. Patient was kept under observation for about three weeks, when it was deemed safe to allow him to leave the hospital and return home. At the time of his discharge condition was as follows: Temperature, normal; vision, could count fingers at eight inches and distinguish objects. At one time there was sympathetic irritation of the good eye, but same disappeared in a few days. Patient never reported again, but have since learned that vision has returned, so lens substance was absorbed.

CASE 8.—J. L., male, aged about sixty; farmer. While harvesting, he either got some foreign body in the eye, or the eye was struck by a beard of wheat, producing an abrasion of the cornea. When he came to the office, several days after the accident, he had a large corneal ulcer which was on the verge of perforation. I performed paracentesis of the floor and cauterized the edges, using the actual cautery. This did not check the progress of the ulcer, and it continued to grow until the entire cornea was involved. I advised enucleation, but patient refused to have the eye removed, and passed from under my care.

CASE 9.—P. C., male, aged about six years. While playing with some children was struck in the eye with a nail. The mother immediately brought the child to the office. Upon examination I ascertained that the nail had penetrated the eye at the sclero-corneal junction and that there was prolapse of the iris. I cocaineized the eye, snipped off the protruding portion of the iris, replacing the edges carefully with the spatula, as one would do in an ordinary iridectomy, and applied an anti-septic dressing. The case made an uneventful recovery, there not being an untoward symptom.

CASE 10.—H. H., aged about five years. While trying to cut some weeds with a corn knife, he in some manner cut his eye. The wound was almost identical with the wound in the case just reported, but the child was not brought to the office until the day after the injury. I proceeded



in the same manner as in the preceding case, with the same good results, with the exception that the recovery was more tedious.

CASE 11.—W. K., male, aged about six years. Ran a fork in his eye. The tine entered a little to the left of the center of the cornea, tearing the iris and lens capsule. I did not see this case until about a week after the injury. At this time there was considerable inflammation and the iris was firmly bound down to the lens capsule. The case had been carefully looked after by the family physician, antiseptic washes had been used, and at the time I saw it the wound in the cornea had healed, except at one point, where there was a string of fibrinous exudate thrown out, which swept back and forth over the cornea with the movements of the lids, keeping up an irritation and preventing the wound from healing. I snipped this off, and used atropine quite heroically, with the hope that I might break up the adhesions, but this I failed to do. He had a light attack of sympathetic irritation at one time, but the case made a good recovery. There is, of course, a traumatic cataract, and a feature of the case is that squint seems to be developing in the blind eye.

With the above cases you will note that in nearly all the neglected ones the eyes were lost, while in those that sought advice early, and where the seriousness of the condition was recognized, and the proper treatment instituted, the majority of the eyes were saved, and in some of the cases useful vision was preserved. The latter luckily formed the larger per cent, cases 1, 4, 5, 6, 7, 9, 10, and 11. In only two instances were the eyeballs lost—cases 1 and 5. Case 1 would certainly come in the second class of eye injuries, as outlined, and case 5 could be very properly placed in that class. In cases 7 and 9 perfect vision was almost secured, although they were wounded in the ciliary region, a particularly dangerous one, as in such cases we nearly always have irido-cyclitis with loss of the eye and great danger of sympathetic inflammation of the fellow eye. In cases 4 and 6 there was partial vision. Case 10 has passed from notice, so no record could be kept of it. In case 11 the cataractous lens may be absorbed and vision result. Cases 2, 3, and 8 were all neglected ones; 2 and 8 could undoubtedly have been saved if treated earlier, and probably the same could be said of case 3.

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**The Surgical Use of Alcohol—Alcohol Dressings.**—(C. Graener, *Munch. Wochen.*) The effects of alcohol as a dressing in phlegmonous and ulcerative processes are becoming more appreciated daily. It acts by assembling new troops of leucocytes to repel invaders. It is especially valuable in country practice where asepsis is impossible. In German lying-in hospitals alcohol in sterile fifty per cent solution has been and is now used with excellent effect in puerperal fevers, as uterine and vaginal douches.

E. Bratz explains that alcohol as a disinfectant of the hands before operation acts by expelling the air from the pores of the skin, allowing the disinfectant to penetrate to the depths of the pores. If possible, alcohol should be applied hot.

## REMARKS ON STOMACH DIAGNOSIS AND TREATMENT, WITH REPORT OF CASES.

BY M. D. SCHMALHORST, A. M., M. D., of St. Louis.

**P**ROGRESS in the diagnosis and treatment of stomach diseases commenced about twenty-five years ago, when the stomach pump began to be applied methodically. It is only by means of the pump that the functions of the stomach can be studied in health and disease.

The number of good men in the field now, and during the past quarter of a century, have achieved such results that have led to a profound knowledge of gastric affections.

The newer mechanical means of therapy, such as lavage, electricity and the spray, are the result of this knowledge. It is now possible to prescribe a rational diet, based upon a chemical examination of the gastric juice; and as a result of a better understanding of the stomach, aside from the dietetic and mechanical means of therapy, surgical procedures lend a helping hand that is welcomed in notable instances.

The physician is continually being reminded that the diagnosis is paramount, whether it be a medical or a surgical one; and in difficult cases his wisdom is in evidence only to that degree in which he makes use of all diagnostic resources. This is doubly true in diseases of the stomach.

It is not a very difficult undertaking now to make a chemical examination of the gastric juice. For all practical purposes the method is comparatively an easy one. It would be a pretty hard matter to diagnose a bladder or a kidney trouble without an examination of the urine. The man who neglects the ureometer, the sacchorometer and albuminometer is a man who treats all "pains in the back" from the same bottle. This is no imagination; it is a plain fact. It is impossible to differentiate an albuminous urine from a diabetic one, by merely looking at it. 'Tis true they sometimes differ in smell, and it is said that they also differ in taste; as to that I could not say, from a personal standpoint. I prefer to mix them up with a little picric acid, Fehling's solution, or something of that sort; nitric acid is good, and an alcohol lamp does exceedingly well. If a pathological urine demands an examination to determine just wherein the pathology lies, then of equal importance is an examination of the secretion of the stomach in disease.

About ten years ago the writer received his diploma from one of our best medical colleges here in St. Louis, and there is no reason to doubt but that the teaching was up to par in this school. But to illustrate, it is remembered that such a thing as a test meal was never given or taken from the stomach during the whole course. No gastric juice was ever brought before a clinic or into a physiology class. I will not go any farther, though, before I take special pains to emphasize one demonstration before the class in physiology. This was to determine the presence of hydrochloric acid. I remembered it. I remember it yet. It is a very delicate and beautiful test. Three or four drops of hydrochloric acid were added to a half-pint of water; then a few drops of that were mixed up with a drop of Günz-



berg's solution and allowed to slowly evaporate in a porcelain dish over an alcohol lamp. The test yielded pretty cherry-red marginal lines as the solution evaporated.

Students always take considerable interest in definite work. They are not long in the lecture rooms before a great many things appear gloomy and doubtful.

One lecturer assures them that he has had splendid results with so-and-so in cholera infantum and pneumonia, while the next one warns them against its use in cholera infantum, but thinks it might be given in lung troubles without much danger. A third one comes in, and at the close of the lecture assures them that there is not a great deal in medicine, after all. He closes with glittering generalities; and when finals come the students do likewise.

Seriously speaking, surgery has taken possession of our medical colleges, and matriculants are not long at the clinics before they are full of surgical imaginations. The graduate must have a year or two of private practice before he finds that he has done no surgery and that he is not likely to do any. Then he feels his misconceived ideas and plainly sees how one-sided his *alma mater* was—how the hospital and college clinics were always made attractive with chloroform and the knife.

This is perfectly natural to the student. He is not to blame. The student will pass a dozen minor operations to see a laparotomy. He will not only do it once, but will continue to do it throughout his whole course. The error is on the part of the instructor. The student naturally takes to surgery because it is definite work. It is true its results are exceedingly satisfactory, but the internal medical man as teacher should have the primary place by all odds. This place must be won by merit, otherwise the surgeon will continue his usurpation. The instructors in medicine do not teach the student to diagnose. Here is the secret of the whole trouble. It is taken as a matter of course that a post-graduate or a hospital course is essential. And it is. The young doctor who does not get it these days is the doctor who will treat all "pains in the back" with the same bottle. But now let us return to troubles of the stomach.

Physiological undigesting gastric juice consists of water, pepsin, rennet, hydrochloric acid, mucus, and mineral salts. It will be seen that the contents of the stomach are acid in reaction; and it is the only secretion of the whole digestive tract that is acid. The saliva makes an alkali medium. In the stomach it is changed to acid. The upper intestines change it again to an alkali, while the lower bowels turn it again back to an acid. This last reaction is due to fermentation.

[TO BE CONTINUED.]

**Adoninin.**—A good many cases of valvular diseases of the heart fail to be benefited by digitalis, especially mitral insufficiencies of long standing and aortic insufficiencies, in which there is an irregular rapid pulse. In such cases adoninin has been found of exceeding value. Its action is safe and prompt. It acts better than strychnia as heart tonic, and has absolutely no cumulative effect. Adoninin can be administered in grain one-thirtieth to grain one-eighth for an indefinitely long period without producing the slightest untoward effect.

THE USE OF PROTARGOL IN DISEASES AND INJURIES OF THE SKIN.<sup>1</sup>

BY DR. FLORET, of Elberfeld, Germany.

PROBABLY none of the newer additions to our materia medica can claim so rapid and extensive popularity in the most diverse conditions as protargol. It was in 1897 that Neisser (*Dermatologisches Centralblatt*, No. 1, 1897) introduced this drug as a more serviceable remedy in the treatment of gonorrhea than the drugs previously in use. His favorable observations, which were based upon exhaustive clinical investigations, have been confirmed by various authors, and have served to secure for it a prominent place among the local remedies for gonorrhea. An equally prominent position has been attained by protargol in the treatment of various ocular affections, especially blennorrhea; and, furthermore, it has been adopted in rhino-laryngological and otological practice. The results of numerous experiments made in these various conditions have been so favorable that protargol at the present time has become one of the most popular and favorite medicaments in these special fields. The great success attained in so short a time by the remedy is attributable to its chemical and physiological properties, which enables it to be utilized to such advantage in clinical practice. According to the statements of Dr. Eichengruen (*Pharmaceutische Centralhalle*, No. 39, 1897), the discoverer of protargol, we possess in it a preparation which contains silver, not only in a masked form, but also in organic combination—that is, instead of a salt or double salt, in firm combination with a proteid. This product, which is readily soluble in water, is not precipitated either by alkaline sulphates, albumen, sodium chloride, or acids, and has a completely neutral reaction. Owing to these extraordinary properties, belonging to no other silver salt, protargol possesses the valuable quality of penetrating and acting deeply in the tissues, as well as of being completely free from irritating effects. The high percentage of silver (8.3 per cent.) gives it a powerful bactericidal action, to which attention has been particularly called by Benario (*Deutsche Medicinische Wochenschrift*, No. 49, 1897). These properties of the preparation would lead one to infer its utility in traumatism and diseases of the skin. In the entire voluminous literature on protargol, however, only two references are to be found regarding experiments in wound-treatment. Benario has employed protargol with success in cases of suppurating wounds of various kinds. He attributes its favorable influence upon wound-healing to the fact that the preparation is not precipitated by the albuminous and saline constituents of the wound secretion, and for this reason is able to exert in full its bactericidal effect. Further, he observed good results from the use of protargol ointment, five to ten per cent., in cases of extensive ulcers of the leg. Strauss (*Monatshefte fuer praktische Dermatologie*, xxvi. Bd., 1898) directs attention to the favorable influence of the remedy upon the healing process in ulcers of the leg. He reports a typical case of leg ulcer, in which protargol proved of great service.

My experiments with protargol, which have extended over almost a

<sup>1</sup> Translated for INTERSTATE MEDICAL JOURNAL.



year, and for which I utilized the abundant material at my polyclinic, comprise the most diverse traumatism, as well as other diseases of the skin. In order to better observe the effect of the preparation, I made use almost entirely of a pure five to ten per cent. ointment, without any addition. As a base, I employed vaseline and lanoline in equal parts. In the treatment of various lesions of the skin with this salve I learned to value protargol as an excellent cicatrizant. As was demonstrated by a series of trial experiments, protargol surpasses all ordinary remedies, such as bismuth, camphor, aristol, nitrate of silver, iodoform, lead water, and solution of acetate of aluminium, in reliability and rapidity in cases in which it was desirable to promote cicatrization in cutaneous affections, from the smallest epidermal abrasions to the most extensive losses of integument, and especially in burns of the second and third degree. In the latter particularly, the rapidity of the process of cicatrization was astonishing in many cases. In a case of burns of the second and third degree due to a gas explosion, which affected the entire back of the hand and the lower third of the forearm, complete healing occurred in the course of fourteen days under the application of protargol ointment dressings, so that the patient could be discharged from treatment, and was again able to resume his occupation. In many other instances, equally rapid curative effects were obtained. In burns of the second degree, after opening and excision of the vesicles, I covered the wound at once with a protargol ointment dressing, which was renewed in from one to three days. Frequently I noted, after the application of the dressing, a rapid diminution of the existing pains, which led me to assume that protargol possesses analgesic properties. In burns of the third degree with charring of the parts, protargol was not applied until after separation of the eschar, during which time I generally employed lead water applications. Protargol acted equally satisfactory as a cicatrizant in the treatment of cutaneous lesions situated over the tibial crest, which are often so slow in healing, and have a tendency to ulceration. That this drug possesses a specific effect in promoting cicatrization is shown by the following: On one occasion, when my supply of protargol ointment gave out, I noted that the newly prepared ointment failed to give the same energetic and rapid curative effects which I had been accustomed to obtain with the old preparation. This inexplicable circumstance became clear to me on looking over my prescription. In place of the previously used five per cent. ointment, I had through an error prescribed a 0.5 per cent. salve, which, of course, owing to its small proportion of protargol, was unable to exert the full effect of the drug.

Compared with nitrate of silver, which, as is well known, is extensively employed as a stimulant for promoting granulation and regeneration of the epidermis, protargol has also the special advantage that it does not produce painful irritation. In about three hundred cases of wounds treated with the latter, only one patient, a very sensitive person, complained of a disagreeable and painful itching. Although nitrate of silver frequently gives rise to very profuse wound secretion which disturbs the healing process, protargol has a desiccating influence which is distinctly evinced in cases of burns with profuse secretion. Excessive proliferation of granulations never occurred under the use of protargol, and therefore where it is desirable to obtain strong growth of granulations, as in healing

of deep extensive defects of the soft parts, silver nitrate would be preferable to protargol. The scars formed under the use of the latter agent are most satisfactory, both as regards firmness and other qualities.

Protargol proved a most valuable remedy in infected purulent wounds, ulcers of various kinds, bed-sores, burns, abrasions, and after incision in panaritria, furuncles and abscesses. Owing to its strong antiseptic power, suppurations soon ceased, the base of the ulcer became clean, and cicatrization progressed rapidly.

As regards the action of protargol in leg ulcers, those cases due to trauma gave undoubtedly the best results. In most instances the application of protargol ointment was at once begun. In cases, however, in which there was a marked necrosis of tissues and copious secretions, as well as those in which the surrounding parts were inflamed, moist antiseptic dressings were at first applied until the base of the ulcer became clean and the inflammatory appearances had subsided. Of a large number of cases treated with protargol I would describe especially one in detail: The patient was an old laborer, who, about two and one-half years before, had developed an ulcer after a contusion of the leg and foot. This soon increased to such an extent as to necessitate hospital treatment. A complete cure of the trouble required seven months, an illustration of its obstinacy and severity. Later he again came under my treatment owing to the breaking down of the scar. On admission to the hospital there was found at the lower part of the left leg an ulcerated surface of about one-half the size of the palm of the hand, with a tendency to further extension. Besides this he suffered from varicose veins, as well as a chronic moist eczema at several places of the leg. After four months' treatment with various antiseptic powders, in connection with bandaging, no material improvement ensued until finally I had recourse to protargol. I made use of this drug in the form of ointments, the dressings being changed at first every day, and later every two days. After four weeks' treatment I had the satisfaction of observing a complete healing of the ulcer, and since then the scar has remained in excellent condition.

The eczema existing in this case showed no special tendency to cure under the use of protargol. On the other hand, in some of the other forms of acute as well as chronic eczema, excellent results were rapidly obtained. Protargol seems especially adapted for that form of the disease in which there is a formation of crusts with a slight secretion, and in the squamous form. After softening of the crusts and removing the scales, the ointment was applied upon gauze in the thickness of a knife-blade, and fixed in position by bandages or plasters. In some instances a direct cure occurred even after the second change of dressing. In eczema impetiginosum of the scalp, so frequent in pediculosis, as well as in eczema of the face in scrofulous children, the results were particularly brilliant. Several cases of vesicular pustulous eczema were directly cured with protargol. In the manifold occupation-eczemas of the hand and face a favorable effect was derived from the use of this agent. That protargol is worthy of a firm place among the remedies for eczema is also shown by the following brief history of a case:

J. B., seventeen years old, consulted me on June 20, 1898, for eczema of several months' duration. Upon the backs of both hands, on the



fingers, and especially between the latter, were numerous small and large pustulous vesicles situated upon reddened and slightly swollen surfaces. At several places the skin was bare of epidermis, and in a very moist condition. On the finger-tips and around the nails there were raw places covered with granulations. No cause could be discovered for the eczema. The patient was treated with dusting powders and salves of various kinds, without any success. At her own request, I referred her on July 22d to the hospital, which she left on September 10th, without a cure, but sufficiently improved to resume light work. On December 21st, owing to a change for the worse, she again came under observation. The eczema was less moist, here and there were vesicular eruptions, as well as a few crusts and scales. The granulations around the nails were still present. My attempt to cure eczema with protargol proved completely successful. The formation of vesicles ceased, the epidermis was soon regenerated, and the granulations around the nails, which persisted the longest, also disappeared. After three weeks' treatment the patient could be discharged completely cured. A recurrence has not taken place up to the present time.

Further experiments were made with protargol in a few cases of herpes zoster and herpes faciei, in which a five per cent. ointment proved of value. The most interesting case was the cure of a scrofuloderma. The patient was a girl seventeen years old, who showed evidences of previous caries of bone in the upper and lower extremities. The left elbow-joint was somewhat stiff during extension. At the flexor side of the joint there were several contracted scars and fistulæ; at the radial side of the left forearm in the upper portion there was a large soft ulcer with undermined edges. The patient stated that at this place she at first noted a nodule, which had broken down several days before. The treatment of this scrofuloderma with a ten per cent. ointment of protargol effected a complete cure within a short time. On the other hand, protargol completely failed in a case of lupus vulgaris. In two cases of psoriasis, and in several cases of trichophytosis of the skin, no improvement was obtained from its application.

My experiments, however, are sufficient to demonstrate the great therapeutic value of protargol in wound treatment, as well as in cutaneous diseases; so that I have no hesitation in recommending my colleagues to test the efficacy of this preparation in these conditions. This drug has been of the greatest service to me, and has become an indispensable medicament which I would loth to dispense with. I am convinced that further experiments with protargol will increase its popularity in these different affections.

CHRISTIAN SCIENCE.<sup>1</sup>

BY JOSEPH JASTROW, of Madison, Wisconsin,

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THE existence of a special term for a medical impostor is doubtless the result of the prevalence of the class thus named, but quackery and occult medicine though mutually overlapping, can by no means be held accountable for one another's failings. Many forms of quackery proceed on the basis of superstitions or fanciful or exaggerated notions containing occult elements, but for the present purpose it is wise to limit attention to those in which this occult factor is distinctive; for medical quackery in its larger relations is neither modern nor occult. Occult healing takes its distinctive character from the theory underlying the practice, rather than from the nature of the practice. It is not so much what is done as why it is done or pretended to be done or not done, that determines its occult character. A factor of prominence in modern occult healing is indeed one that in other forms characterized many of its predecessors and was rarely wholly absent from the connection between the procedure and the result; this is the mental factor, which may be called upon to give character to a theory of disease, or be utilized consciously or unconsciously as a curative principle. It is not implied that "mental medicine" is necessarily and intrinsically occult, but only that the general trend of modern occult notions regarding disease may be best portrayed in certain typical forms of "psychic" healing. The legitimate recognition of the importance of mental conditions in health and disease is one of the results of the union of modern psychology and modern medicine. An exaggerated and extravagant as well as pretentious and illogical overstatement and misstatement of this principle may properly be considered as occult.

Among such systems there is one which by its momentary prominence overshadows all others, and for this reason as well as for its more explicit or rather extended statement of principles, must be accorded special attention. I need hardly say that I refer to that egregious misnomer, Christian Science. This system is said to have been discovered by or revealed to Mrs. Mary Baker Glover Eddy in 1866. Several of its most distinctive positions (without their religious setting) are to be found in the writings and were used in the practice of Mr. or Dr. P. P. Quimby (1802-1866), whom Mrs. Eddy professionally consulted shortly before she began her own propagandum. On its theoretical side the system presents a series of quasi-metaphysical principles, and also a professed interpretation of the Scriptures; on its practical side it offers a means of curing or avoiding disease and includes under disease also what is more generally described as sin and misfortune. With Christian Science as a religious movement I shall not directly deal; I wish, however, to point out that this assumption of a religious aspect finds a parallel in Spiritualism and Theosophy, and doubtless forms one of the most potent reasons for the success of these occult movements. It would be a most dangerous principle to admit that the treatment of disease and the right to ignore hygiene can become the

<sup>1</sup> Extract from an article, "The Modern Occult," in *Popular Science Monthly* (September, 1900). Published by permission.



perquisite of any religious faith. It would be equally unwarranted to permit the principles which are responsible for such beliefs to take shelter behind the ramparts of religious tolerance; for the essential principles of Christian Science do not constitute a form of Christianity any more than they constitute a science; but in so far as they do not altogether elude description, pertain to the domain over which medicine, physiology and psychology hold sway. As David Harum, in speaking of his church-going habits, characteristically explains, "the one I stay away from when I don't go's the Prespyterium," so the doctrines which Christian Science "stays away from" are those over which recognized departments of academic learning have the authority to decide.

Mrs. Eddy's magnum opus, serving at once as the text-book of the "science" and as a revised version of the Scriptures—Science and Health, with Key to the Scriptures—has been circulated to the extent of one hundred and seventy thousand copies. I shall not give an account of this book nor subject its more tangible tenets to a logical review; I must be content to recommend its pages as suggestive reading for the student of the occult and to set forth in the credentials of quotation marks some of the dicta concerning disease. Yet it may be due to the author of this system to begin by citing what are declared to be its fundamental tenets, even if their connection with what is built upon them is far from evident:

"The fundamental propositions of Christian Science are summarized in the four following, to me *self-evident* propositions. Even if read backward, these propositions will be found to agree in statement and proof:

1. God is All in all.
2. God is good. Good is Mind.
3. God, Spirit, being all, nothing is matter.
4. Life, God, omnipotent Good, deny death, evil, sin, disease—Disease, sin, evil, death, deny Good, omnipotent God, Life."

"What is termed disease does not exist." "Matter has no being." "All is mind." "Matter is but the subjective state of what is here termed *mortal mind*." "All disease is the result of education, and can carry its ill-effects no farther than mortal mind maps out the way." "The fear of dismembered bodily members, or a belief in such a possibility, is reflected on the body, in the shape of headache, fractured bones, dislocated joints, and so on, as directly as shame is seen rising to the cheek. This human error about physical wounds and colics is part and parcel of the delusion that matter can feel and see, having sensation and substance." "Insanity implies belief in a diseased brain, while physical ailments (so-called) arise from belief that some other portions of the body are deranged. . . . A bunion would produce insanity as perceptible as that produced by congestion of the brain, were it not that mortal mind calls the bunion an unconscious portion of the body. Reverse this belief and the results would be different." "We weep because others weep, we yawn because they yawn, and we have small-pox because others have it; but mortal mind, not matter, contains and carries the infection." "A Christian Scientist never gives medicine, never recommends hygiene, never manipulates." "Anatomy, Physiology, Treatises on Health, sustained by what is termed material law, are the husbandmen of sickness and disease." "You can even educate a healthy horse so far in physiology that he will take cold without his blanket." "If exposure to a draught of air while in a state of perspiration is followed by chills, dry cough, influenza, congestive symptoms in the lungs, or hints of inflammatory rheumatism, your Mind-remedy is safe and sure. If you are a Christian Scientist, such symptoms will not follow from the exposure; but if you believe in laws of matter and their fatal effects when transgressed, you are not fit to conduct your own case or to destroy the bad effects of belief. When the fear subsides and the conviction abides that you have broken no law, neither rheumatism, consumption nor any other disease will ever result from exposure to the weather." "Destroy fear and you end the fever." "To prevent disease or cure it mentally let spirit destroy the dream of sense. If you wish to heal by argument, find the type of the ailment, get its name and array your mental plea against the physical. Argue with the patient (mentally, not audibly) that he has no disease, and conform the argument to the evidence. Mentally insist that health is the everlasting fact, and sickness the temporal falsity. Then realize the presence of health and the corporeal senses will respond, so be it." "My publications alone heal

more sickness than an unconscientious student can begin to reach." "The quotient when numbers have been divided by a fixed rule, are not more unquestionable than the scientific tests I have made of the effects of truth upon the sick." "I am never mistaken in my scientific diagnosis of disease." "Outside of Christian Science all is vague and hypothetical, the opposite of Truth." "Outside Christian Science all is error."

Surely this is a remarkable product of mortal mind! It would perhaps be an interesting *tour de force*, though hardly so entertaining as "Alice in Wonderland," to construct a universe on the assertions and hypotheses which Christian Science presents; but it would have less resemblance to the world we know than has "Alice's Wonderland." For any person for whom logic and evidence are something more real than ghosts or myths, the feat must always be relegated to the airy realm of the imagination and must not be brought in contact with earthly realities. And yet the extravagance of Mrs. Eddy's book, its superb disdain of vulgar fact, its transcendental self-confidence, its solemn assumption that reiteration and variation of assertion somehow spontaneously generate proof or self-evidence, its shrewd assimilation of a theological flavor, its occasional successes in producing a presentable travesty of scientific truth—all these distinctions may be found in many a dust-covered volume, that represents the intensity of conviction of some equally enthusiastic and equally inspired occultist, but one less successful in securing a chorus to echo his refrain.

I cannot dismiss "Eddyism" without illustrating the peculiar structures under which, in an effort to be consistent, it is forced to take shelter. Since disease is always of purely mental origin, it follows that disease and its symptoms cannot ensue without the conscious co-operation of the patient; since "Christian Science divests material drugs of their imaginary power," it follows that the labels on the bottles that stand on the druggist's shelves are correspondingly meaningless. And it becomes an interesting problem to inquire how the consensus of mortal mind came about that associates one set of symptoms with prussic acid, and another with alcohol, and another with quinine. Inhaling oxygen or common air would prepare one for the surgeon's knife, and prussic acid or alcohol have no more effect than water, if only a congress of nations would pronounce the former to be anæsthetic and promulgate a decree that the latter shall be harmless. Christian Science does not flinch from this position. "If a dose of poison is swallowed through mistake and the patient dies, even though physician and patient are expecting favorable results, does belief, you ask, cause this death? Even so, and as directly as if the poison had been intentionally taken. In such cases a few persons believe the potion swallowed by the patient to be harmless; but the vast majority of mankind, though they know nothing of this particular case and this special person, believe the arsenic, the strychnine, or whatever the drug used, to be poisonous, for it has been set down as a poison by mortal mind. The consequence is that the result is controlled by the majority of opinions outside, not by the infinitesimal minority of opinions in the sick chamber." But why should the opinions of *oi πολλοί* be of influence in such a case, and the enlightened minorities be sufficient to effect the marvelous cures in all the other cases? Christian Scientists do not take cold in draughts, in spite of the contrary opinions or illusions of misguided majorities. The logical Christian Scientist need not eat, "for the truth is food does not affect the life of man,"



and should not renounce his faith by adding, "but it would be foolish to venture beyond our present understanding, foolish to stop eating, until we gain more goodness and a clearer comprehension of the living God." And if he is a mental physician, he must be a mental surgeon, too, and not plead that, "Until the advancing age admits the efficacy and supremacy of mind, it is better to leave the adjustment of broken bones and dislocations to the fingers of surgeons." But it is unprofitable to consider the weakness of any occult system in its encounters with actual science and actual fact. It is simply as a real and prominent menace to rationality that these doctrines naturally attract consideration. As illustrations of present-day occult beliefs we are naturally tempted to inquire what measure of (perverted) truth they may contain, but the more worthy question is: How do such perversions come to find so large a company of "supporting listeners?" For to any one who can read and be convinced by the sequence of words of this system, ordinary logic has no power, and to him the world of reality brings no message. No form of the modern occult antagonizes the foundations of science so brusquely as this one. The possibility of science rests on the thorough and absolute distinction between the subjective and the objective. In what measure a man loses the power to draw this distinction clearly and as other men do, in that measure he becomes irrational and insane. The objective exists; and no amount of thinking it away, or thinking it differently, will change it. That is what is understood by ultimate scientific truth; something that will endure unmodified by passing ways of viewing it, open to every one's verification who can come equipped with the proper means to verify—a permanent objective to be ascertained by careful logical inquiry, not to be determined by subjective opinion. Logic is the language of science; Christian Science and what sane men call science can never communicate because they do not speak the same language.

It would be unfortunate if, in emphasizing the popular pre-eminence of Christian Science, one were to overlook the significance of the many other forms of "drugless healing" which bid for public favor by appeal to ignorance and to occult and superstitious instincts. Some are allied to Christian Science and, like it, assimilate their cult to a religious movement; others are unmistakably the attempts of charlatans to lure the credulous by noisy advertisements of newly discovered and scientifically indorsed systems of "psychic force" or some personal "ism." For many purposes it would be unjust to group together such various systems which, in the nature of things, must include sinner and saint, the misguided sincere, the half-believers, who think "there may be something in it," or "that it is worth a trial," along with scheming quacks and adepts in commercial fraud. They illustrate the many and various roads traveled in the search for health by pilgrims who are dissatisfied with the highways over which medical science goes its steady, though it may be uncertain, gait. Among them there is both plausible exaggeration and ignorant perversion and dishonest libel of the relations that bind together body and mind. Among the several schisms from the Mother Church of Christian Science there is one that claims to be the "rational phase of the mental healing doctrine," that acknowledges the reality of disease and the incurability of serious organic disorders, and resents any connection with the "half-fanatical per-

sonality worship [of Mrs. Eddy] as quite as foreign to its tenets as would be the views of the 'Free Religious Association' to the 'Pope of Rome.'" "Divine Healing" exhibits its success, in one notable instance, in the establishment of a school and college, a bank, a land and investment association, a printing and publishing office, and sundry Divine Healing Homes; and this prosperity is now to be extended by the foundation of a city or colony of converts who shall be united by the common bond of faith in divine healing as transmitted in the personal power of their leader. The official organ of this movement announces that the personification of their faith "makes her religion a business, and conducts herself upon sound business principles." With emphatic protest on the part of each that he alone holds the key to salvation, and that his system is quite original and unlike any other, comes the procession of Metaphysical Healer and Mind-Curist and Viticulturist and Magnetic Healer and Astrological Health Guide and Prenopathist and Medical Clairvoyant and Psychic Scientist and Mesmerist and Occultist. Some use or abuse the manipulations of hypnotism; others claim the power to concentrate the magnetism of the air and to excite the vital fluids by arousing the proper mental vibrations, or by some equally lucid and demonstrable procedure; some advertise magnetic cups and positive and negative powders and absent treatment by outputs of "psychic force," and countless other imposing devices. In truth, they form a motley crew, and with their "Colleges of Fine Forces" and "Psychic Research Companies," offering diplomas and degrees for a three weeks' course of study or the reading of a book, represent the slums of the occult. An account of their methods is likely to be of as much interest to the student of fraud as to the student of opinion.

There can be no doubt that many of these systems have been stimulated into life or into renewed vigor by the success of "Christian Science;" this is particularly noticeable in the introduction of absent treatment as a plank in their diverse platforms. This ingenious method of restoring the health of their patients and their own exchequers appealed to all the band of healing occultists, from Spiritualist to Vibrationist, as easily adaptable to their several systems. In much the same way Mesmer, more than a hundred years ago, administered to the practice which had exhausted the capacity of his personal attention by magnetizing trees and selling magnetized water. The absent treatment represents the occult "extension movement," and unencumbered by the hampering restrictions of physical forces, superior even to wireless telegraphy, carries its influence into the remotest homes. From ocean to ocean and from North to South these absent healers set apart some hour of the day when they mentally convey their healing word to the scattered members of their flock. On the payment of a small fee you are made acquainted with the "soul-communion time-table" for your longitude and may know when to meet the healing vibrations as they pass by. Others disdain any such temporal details and assure a cure merely on payment of the fee; the healer will know sympathetically when and how to transmit the curative impulses. Poverty and bad habits as well as disease readily succumb to the magic of the absent treatment. Here is the hysterical edict of one of them: "Join the Success Circle." . . . "The Center of that Circle is my omnipotent WORD. Daily I speak it. Its vibrations radiate more and more powerfully day by



day. . . . As the sun sends out vibrations . . . so my WORD radiates Success to 10,000 lives as easily as to one."

It is impossible to appreciate fully the extravagances of these occult healers unless one makes a sufficient sacrifice of time and patience to read over a considerable sample of the periodical publications with which American occultism is abundantly provided. And when one has accomplished this task he is still at sea to account for the readers and believers who support these various systems so undreamt of in our philosophy. It would really seem that there is no combination of ideas too absurd to fail entirely of a following. Carlyle, without special provocation, concluded that there were about forty million persons in England, mostly fools; what would have been his comment in the face of this vast array of human folly! If it be urged in rejoinder that beneath all this rubbish-heap a true jewel lies buried, that the wonderful cures and the practical success of these various systems indicate their dependence upon an essential and valuable factor in the cure of disease and the formation of habits, it is possible with reservation to assent and with emphasis to demur. Such success, in so far as it is rightly reported, exemplifies the truly remarkable function of the mental factor in the control of normal as of disordered physiological functions. This truth has been recognized and utilized in unobtrusive ways for many generations, and within recent years has received substantial elaboration from carefully conducted experiments and observations. Specifically the therapeutic action of suggestion, both in its more usual forms and as hypnotic suggestion, has shown to what unexpected extent such action may proceed in susceptible individuals. The well-informed and capable physician requires no instruction on this point; his medical education furnishes him with the means of determining the symptoms of true organic disorder, of functional derangement and of the modifications of these under the more or less unconscious interference of an unfortunate nervous system. It is quite as human for the physician as for other mortals to err, and there is doubtless as wide a range among them as among other pursuits, of ability, tact and insight. "But when all is said and done" the fundamental fact remains that the utilization of the mental factor in the alleviation of disease will be best administered by those who are specifically trained in the knowledge of bodily and mental symptoms of disease. Such application of an established scientific principle may prove to be a jewel of worth in the hands of him who knows how to cut and set it. The difference between truth and error, between science and superstition, between what is beneficent to mankind and what is pernicious, frequently lies in the interpretation and the spirit as much as or more than in the fact. The utilization of mental influences in health and disease becomes the one or the other according to the wisdom and the truth and the insight into the real relations of things that guide its application. As far removed as chemistry from alchemy, as astronomy from astrology, as the doctrine of the localization of function in the brain from phrenology, as "animal magnetism" from hypnotic suggestion, are the crude and perverse notions of Christian Scientist or Metaphysical Healer removed from the rational application of the influence of the mind over the body.

# FORMULAE.

## Chronic Laryngitis.

℞ Thymol ..... gr. xv  
 Eucalyptol ..... gr. xx  
 Creosoti ..... ℥ ij  
 Ol. gaultheri ..... ℥ j  
 Ol. pini sylvestri ..... ℥ v

M. Sig.—Inhale five or six drops four or five times daily.

## Goitre.

℞ Iodini ..... gr. ij  
 Potassi iodidi ..... gr. iv  
 Alcoholis ..... ℥ j  
 Syrupus simplicis ..... ℥ j  
 Aquæ ..... ad ℥ ij

M. Sig.—Teaspoonful after eating, in water, three times daily.

## Ring-Worm.

℞ Hydrargyri chloridi cor. .... gr. j  
 Aluminis ..... gr. xx  
 Amyli ..... ℥ ij  
 Aquæ ..... q. s. ad ℥ iv

M. Sig.—Apply locally night and morning.

## Fetid Breath.

℞ Sodii bicarbonatis,  
 Santonin,  
 Acidi salicyli ..... aa ℥ ss  
 Alcoholis ..... q. s. ad ℥ iij

M. Sig.—Teaspoonful in a glass of water, as mouth wash.

## Gastralgia.

℞ Codein phosphatis ..... gr. ij  
 Bismuthi subnitrate ..... gr. v  
 Sacchari lactis ..... gr. iij

M. Sig.—At dose. Repeat every two hours until relieved.

## Painful Menstruation.

℞ Codein ..... gr. ij  
 Chloralis,  
 Sodii bromidi ..... aa ℥ ss  
 Aquæ camphoræ ..... ℥ ij

M. Sig.—One dessertspoonful in water upon retiring.

## Poison Ivy.

℞ Sodii sulphitis ..... ℥ j  
 Glycerin ..... ℥ ss  
 Aquæ camphoræ ..... ℥ iv

M. Sig.—Apply locally to affected part on gauze.

**Sleeplessness During Infectious Diseases in Children.**—The following is a useful hypnotic mixture under these circumstances:

℞ Chloralamid ..... gr. xv  
 Liq. ammon. acet ..... ℥ iv  
 Syr. simp ..... ℥ j  
 Aq ..... q. s. ℥ ij

M. Sig.—A teaspoonful every four hours for a child of three.—*Ex.*

## Chronic Ulcer of the Stomach.

℞ Chloroform ..... m xviii  
 Bismuth subnit. .... gr. xlv  
 Water ..... ℥ vss

M. Sig.—One-half tablespoonful every hour or two.—*STEFF, Therap. Blaetter.*

**A Liver Pill.**—Euonymin is an excellent hepatic stimulant. In cases of "sluggish liver" with constipation it may be given as follows:

℞ Euonymini,  
 Pil. colocynth co. .... aa grs. xxij  
 Ext. hyoscyami ..... grs. ivss

M. Divide in pil. x.

Sig.—One pill at bed-time.—*Physician and Surgeon.*

## Tobacco Heart.

℞ Adonidin ..... .005  
 Ammonii carb ..... .125  
 Camphoræ ..... .03

M. Sig.—t. i. d.



## NEW YORK LETTER.

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**St. John's Guild**, though handicapped by insufficient funds, is still carrying out its benevolent work. During July alone the floating hospitals have carried 31,206 children and their mothers. In addition, the Seaside Hospital has given 9209 days of treatment. Since then the demands for admission on all three hospitals have been steadily increasing, and much severe sickness among babies and small children has shown the necessity for this service. The life-saving value of the Guild is incalculable, and it is to be hoped that contributions to enable its mission to be continued properly will not be lacking. The increased demands on the available funds of the organization has resulted in the sending out of a circular stating that, owing to the long and severe hot spell, there has been an unusual increase of illness and suffering among the children of the poor of this city, which has caused unprecedented demands on the Guild for help. The trustees appeal to the public for further contributions, as, if not thus aided, the two floating hospitals and the Seaside Hospital at New Dorp, Staten Island, which have been devoted to the care of sick infants of the poor, will have to be discontinued. They urge all contributions forthcoming to be made immediately. The circular was signed by ex-Mayor W. L. Strong, J. P. Farre and W. F. King. The Guild has recently received a gift which establishes a permanent fund, but for current expenses the interest only on this fund is available.

**Realizing the value** and necessity of fresh-air excursions, acting Mayor Guggenheimer called a special session of the Board of Aldermen and Council, held August 14th, for the purpose of appropriating \$1,500 for the excursions to be given to school children. Tugs and barges were chartered to take the children on excursions around the harbor. Although there were bond issues involving millions held up in both houses of the municipal assembly, the leaders decided that this \$1,500 appropriation was to go through first.

**Nothing better shows** the vital importance of placing the children of the poor—those needing it most and yet least able to provide for it themselves—in the best hygienic surroundings during the hot months, than the following official mortality report of the Department of Health of the City of New York. The figures refer to deaths from gastro-enteric diseases in children under five years—the summer diarrhœas of children—which find if not a direct causal factor, at any rate a predisposing fatal influence, in the high temperature of summer months. The mean temperature, as furnished by the New York Meteorological Observatory, is appended: For the week ending July 21st, 368 deaths, 81.1°; July 28th, 242 deaths, 76.7°; August 4th, 165 deaths, 73.1°; August 11th, 207 deaths, 80.6°; August 18th, 169 deaths, 75.9°. It is really remarkable to note how certainly the mortality rises if the temperature does; and, conversely, how positively it falls with the temperature. The ratio between the two seems almost, under given conditions, a mathematical constant.

**The Tuberculosis Committee** of the State Board of Health is conducting experiments with the milk of tuberculous cows to determine the danger from infection to consumers, and to study the relative virulence of the bacillus tuberculosis from the cow and from man. The milk is fed to rabbits, and the effect on the animals as regards the development of tuberculosis observed. Inoculations are also made into rabbits and guinea-pigs, and the resulting pathological lesions, distribution and development of the bacillus studied. For comparative tests, bacilli from a case of tuberculosis in man are used in inoculations of other rabbits and guinea-pigs. Dr. F. W. Smith, secretary of the committee, has notified the State Board of Health of the experiments.

**One effect of the long-continued hot weather** has been the drying up of pastures, the increased cost of feeding the cows leading to a demand by farmers and dairymen of an advance in the price of milk, which was granted by the Consolidated Milk Exchange. The result is an increase of ten cents per can wholesale, which means an increase of the retail price of at least six cents a quart. Now the unfortunate feature of a rise in the price of milk is to force the masses of the poor to buy the cheapest and inferior grades, some containing "preservaline," for their children, many of them "bottle babies," which naturally soon fill an early grave. Would that there were Nathan Strauss Milk Charities in every large city on the globe!

**Bellevue University Building**, now used by Cornell Medical College, is to be converted into a maternity hospital. This will do away with the old Maternity Hospital at Bellevue Hospital. The change will be made in the near future; as soon as Cornell occupies its new building, which is one of the finest in the country. The Maternity Hospital will occupy the first and second floors, the dispensary the ground floor, the top floors to be used as a dormitory for Bellevue Hospital servants.

**Dr. S. Adolph Knopf**, of New York, received a prize of 4000 marks from the Berlin Tuberculosis Congress for a competitive essay on "Tuberculosis as a Disease of the Masses and How to Fight It." There were eighty-one competitors. The committee awarding the prize comprised some of the most distinguished sanitariums and clinicians in Germany, among them being Leyden, Fraenkel, and Gerhardt.

**A Bellevue Hospital ambulance** in charge of Edward Druhy, the driver, and Dr. Sullivan, the ambulance surgeon, was struck by a rapidly moving Sixth avenue electric car while crossing at Fifty-second street. The ambulance was overturned and considerably damaged, and the driver thrown out at the horses' feet, but was little injured. Dr. Sullivan saw that a collision was unavoidable, sprang forward in the ambulance, and escaped with slight injuries.

An ambulance of Harlem Hospital met a similar fate a short time ago. It was wrecked by a Second avenue trolley car. There is no lack of surgical material provided through the agency of the surface cars, and though this may help in adding to the experience of young hospital internes, they presumably prefer not to furnish cases in person.



Among the two hundred and thirty-four names submitted to the judges of the Hall of Fame of New York University, of which one hundred will be chosen as worthy of being thus "immortalized," occur the following names of medical men: Valentine Mott, Benjamin Rush, James Marion Sims, Ephraim McDowell, and John Collins Warren. The *New York Medical Journal*, commenting on the list, wonders, and justly so, why the names of such illustrious men as Elisha Bartlett, Nathan Smith, and Daniel Drake were not included.

Dr. R. F. Weir was given an honorary fellowship in the Royal College of Surgeons, London, at its centenary celebration.

The University of Michigan and Dickinson College conferred the honorary degree of LL.D. on Dr. Stephen Lewis Pilcher, editor of the *Annals of Surgery*, and surgeon to the Methodist Episcopal Hospital, Brooklyn.

T. E. McGarr, secretary of the State Commission in Lunacy, received first prize at the Paris Exposition for the best exhibit of methods and means used in the care of the insane. The exhibit shows the progress made during the past one hundred years in the treatment of the mentally deranged, and comprises photographs, statistics, and working models.

At Coney Island forty-one places not connected with the sewage system as required by law were ordered by Assistant Superintendent Robert A. Black to be vacated. The proprietors had previously been warned, and prompt action followed the order. Only about a dozen houses were found by the health officers and closed.

Under an act passed by the last legislature and approved by the mayor, the Brooklyn Homeopathic Hospital was to be purchased by the city and run as a public institution. However, the city was called upon to assume the debts of the hospital, amounting to \$70,000. To this President Guggenheimer objected until an examination of the assets had been made. A meeting was held a short time ago, at which he expressed himself as satisfied with the proposed arrangement, and it was decided that the city receive the property of the hospital and be responsible for all its debts. So that in the near future the Brooklyn Homeopathic Hospital will be a public institution.

The New York Hospital is being sued for \$10,000 damages by an amateur athlete of Brooklyn. It seems that after an operation performed at Hudson Street House of Relief an overheated water bag left in contact with his left heel burnt it. He entered the New York Hospital November 1, and alleges that because of injury to heel he was detained until late in November, was dismissed before injury had healed, injury became worse, and now he is unable to run any races. The hospital's lawyer states that a patient who receives treatment from a charitable institution waives all claims for damages resulting from accidental injury.

The Roentgen Society of the United States will hold its meeting in New York, December 13 and 14, at the Academy of Medicine. The meet-

ing is expected to be a very successful one, of great scientific interest, as papers are anticipated from scientists abroad as well as at home. Visiting members will have exceptional opportunity to study the latest progress and discoveries made in X-ray work.

**Dr. J. F. Burns**, visiting surgeon to St. John's Hospital, Long Island City, died there from spinal meningitis, August 9th, at the age of thirty-seven. He was a graduate of the University of New York, class 1889.

**Dr. M. Kenyon** was elected secretary of the medical board of the New York School of Clinical Medicine.

**The resignation** of Mr. Z. R. Brockway, former superintendent of the Elmira Reformatory, is to take effect December 31st, until when he has been granted leave of absence. Dr. F. M. Robertson has been appointed acting superintendent during this time.

**Another case** of Spartan-like stoicism was displayed by a fifteen-year-old boy, apprentice in a machine shop. While lifting his bicycle from the wall near the fly-wheel, his foot slipped and his arm, caught in the fly-wheel, was torn off. Immediately he fell to the floor, without, however, becoming unconscious. He soon rose, took a seat on a neighboring bench, and, calling some workmen, told them to send for an ambulance surgeon. He would not let any of the men touch the remaining stump to bandage it, but told one of them to place the severed extremity on the bench by his side. Luckily the torsion and crushing of the ends of the severed arteries prevented much further hemorrhage, and when the surgeon from Roosevelt arrived, he found the boy apparently the coolest of the lot. When told to get into the ambulance, the boy is said to have exclaimed: "Wait, doctor, I'll take my arm with me."

**Machinery claimed** still another victim in the person of a Brooklyn factory girl, who suffered almost complete avulsion of the scalp through her hair becoming entangled in the shafting over her bench. While trying to free herself as she was whirled along, her right hand was crushed so badly as to necessitate amputation of one of the fingers.

New York, 6 East 32, 1900-8-28. THEODORE H. ROMEISER, M. D.





**Atlas of Diseases Caused by Accidents.** By Dr. ED. GALEBIENSKI, of Berlin. An authorized translation from the German, with editorial notes and additions by Pearce Bailey, M. D. Five hundred and fifty pages. Forty colored plates, one hundred and forty-three black illustrations. Price, \$4.00. W. B. Saunders & Co., Philadelphia, Pennsylvania. L. M. Matthews & Co., St. Louis, agents.

A most useful book to both physician and surgeon. It is divided into two parts, one treating of injuries in general, the other those affecting special regions and organs. The general style of this work is excellent and the illustrations particularly commendable.

**A Manual of Personal Hygiene.** Edited by WALTER L. PYLE, A. M., M. D. Illustrated. Three hundred and fifty pages. Price, \$1.50. W. B. Saunders & Co., Philadelphia. L. M. Matthews & Co., St. Louis, agents.

A book showing how to live in harmony with physiological functions and conditions, and giving the best means of the developing and preserving mental and physical strength. The subject is considered in seven chapters, each written by an authority. It will be found of value not only in the hands of the physician, but also the more intelligent laymen.

**The Gynecologic Consideration of the Sexual Act.** By DENSLOW LEWIS, Ph. C., M. D., Professor of Gynecology in the Chicago Polyclinic, President of the Attending Staff of Cook County Hospital, late Special Commissioner from the Illinois State Board of Health and the Health Department of Chicago for the Investigation of Municipal Sanitation in European Cities, etc., etc. Price, 50 cents; postage, 10 cents extra. For sale by E. H. Colegrove, 65 Randolph street, Chicago.

This work is a paper read at the Columbus meeting of the American Medical Association and refused publication by the Publication Committee of the Trustees. The author has incorporated correspondence with the editor of the *Journal* of the Association and with the Trustees. The article is exactly what is indicated by the title, and is worthy of the thoughtful reading of every physician.

W. B. Saunders & Co., of Philadelphia, have established a branch of their business in Great Britain. Originally as W. B. Saunders, and more recently W. B. Saunders & Co., this concern has done a great deal to raise the standard of medical works and to encouraging the writing of good books by members of the profession. We wish them in the British branch a parallel success to that gained in this country.

## MEDICAL TREATMENT.

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**Summer Diarrhœa in Infants.**—Kerley says when the nature of the disease is appreciated, the treatment is one of elimination and correct diet. When the case is seen early enough a dose of castor oil should be given, followed by calomel; if seen later, simply give calomel in small hourly doses. The aim is to disinfect the bowel and its contents as far as possible. Remove the bacteria and their products and provide a food which will prove a bad culture medium. For this latter purpose stop the milk diet and substitute barley water or a teaspoonful or two of beef tea in water. Egg water is not to be recommended, as the albumen is not digested and absorbed. The drugs in summer diarrhœa are few, and should be used with caution. Opium should never be given unless there are ulcerations, and then as little as possible. Children react badly to opium. We are practically limited to castor oil, calomel and some of the bismuth preparations. Irrigations of the colon are of great value, and should be given. Weak solutions of potassium permanganate are of great advantage. He draws attention to the prophylactic treatment of the summer diarrhœas. Keep the infants out in the fresh air in a cool, shady spot; and if that is not possible, in the coolest room of the house. The clothing should be of the lightest kind, and a good deal of water should be allowed. On hot days the food should be diminished by one-third in strength and in quantity. Extreme care should be exercised in the preparation of food and its preservation. It should be kept on ice, tightly corked, to avoid contamination. Regular hours for feeding and sleep should be observed.

**Raw Meat as Antitoxin.**—Rechet (*Semain Medicale*) claims that raw meat checks the development of experimental tuberculosis and cures it. The amount necessary is 12 gm. per kilogram of body-weight. The active principle in this respect is muscle plasma. The effect is not due to superalimentation, but rather to some antitoxic property, as experiments on young tuberculous dogs indicate. It acts by its enzymes, ferments and diastases, which possess the beneficent property of opposing tuberculous infection. Tests on man indicate that large doses of raw meat have to be administered—600 to 750 gm. daily—or 1000 to 1500 gm. of the plasm. The use of raw meat should not be reserved for failing digestion, but should be instituted against the tuberculosis itself. Consequently it should be administered from the start.

**Treatment of Eczema.**—Jonathan Hutchinson, in the *Archives of Surgery*, states that tar is the remedy par excellence in eczema. The complete armamentarium for eczema which he employs consists of tar, lead and mercury. He uses the tar in very weak, watery solutions, and uses it then as copiously as water. The solution should be so weak as not to smart, and he frequently prescribes less than a teaspoonful of the liquor carbonis detergens to the pint of water. He recommends it as a bath, lotion and dressing. When used as dressing it should be moistened fre-



quently and must not be covered with oil silk. He claims that nine out of ten cases will recover by local treatment, without drugs or alteration in diet. He always advises against the use of sugar, milk and fruits. Frequently he gives saline purges, and prefers antimony et potassi tartras in acute cases. The main agent in the production and maintaining of the eczema is rubbing and scratching; if this can be overcome, a cure can be assured. As it is hardly possible to keep from scratching, he recommends baths which are not followed by reactions. The weak tar solutions counteract the itching, and there are few cases in which he does not prescribe them. Occasionally, in the very acute cases, he uses lead, or a mixture of equal parts of liquor carbonis and liquor plumbi subacetatis, a teaspoonful to a pint of water. Arsenic rarely does any good and frequently irritates.

**Treatment of Ileus.**—Dr. Batok reports some good results in ileus from the administration of atropine subcutaneously. He uses 0.001 to 0.005 of the alkaloid, and claims to have seen an evacuation of the bowels already after the first dose. In case of failure of the ordinary evacuants in obstruction of the bowels, prompt and decisive action is necessary. The administration of atropine will not prolong the temporizing period much, and should be tried as a last resort before operation. The danger of it lies in the complete paralysis of the intestines which is caused by it. If it fails to act and operative procedures have to be instituted, the failure of the muscular coats of the intestines to act is a frequent cause of death. Although the contents of the intestines are liquid above the seat of obstruction, they frequently fail to gravitate to the rectum, and an absorption of toxins continues. In cases where no other pathological cause is present than a twisting of the intestines, the administration of ox gall, pulverized, per os and per rectum, has met with considerable success. The effort to achieve increased peristalsis seems more rational in the simple obstruction than the diminution or paralysis of the muscular effort.

**The Treatment of Abortions.**—The physician observing a good many women aborting without any ill-consequences, with no assistance or interference, is frequently perplexed when called in to attend an abortion what his conduct should be. It is always the question of prompt action or temporizing. Nature has its own methods of ridding the organism of incumbrances, and the curette as a removing agent has no place there; as little as the iodoform pack. In abortions, though, it is the best plan not to imitate nature, but to aid her in her aim of removing a useless mass endangering the organism. In more than half of the cases the physician is called to attend, it is an alarming hemorrhage which confronts him. On examination there is usually only enough dilatation of the cervix to admit the tip of the little finger. If the dilatation is less than that the diagnosis of impending abortion can only be made, and our efforts are by law directed to prevent the miscarriage by proper anodynes and rest. If the tip of the little finger can enter the os cervici the fruit is doomed, and our attention must be given to relieve the organism of its burden at the least expense and least danger to the mother. The first problem is to stop the hemorrhage. The hæmostatics at our command are ergot, hot

douches, and gauze. Ergot can be administered in one or two doses of a teaspoonful each, or, better, in doses of twenty drops every half hour or hour. At any rate, it is not advisable to give too much of it, as the contractions of the uterus following its use are likely to retain some cotyledon of the placental mass and lead to further trouble. The administration of ergot must be looked upon, not as a curative means, but as emergency aid. To assist the patient in throwing off the wasted fruit, with the avoidance of danger, no drugs should be relied on. To obtain a sufficient dilatation of the os and to stop any further hemorrhage, packing of the vagina must be resorted to. This should be done with all the care given to a major operation, as the absorption of septic material from the vagina and uterus in the parturient stage is as prompt as from the peritoneum. The vagina is douched with a large amount of sublimate solution, its strength to vary from 1-4000 to 1-2000. There is no danger in using a single strong injection. Following the douche, iodoform or bichloride gauze is packed in the vagina in a way that the posterior fornix be tightly filled and the cervix surrounded with gauze on all sides; then the vagina is tightly packed and a pad of sterile gauze is placed in front of the vagina. This packing can remain for twenty-four hours; in the meantime thirty gr. of ergot and one-eighth gr. of morphine is administered every three to four hours. At the end of twenty-four hours the packing is removed and either the fruit is found delivered completely, or the os is dilated sufficiently to remove it. If the os has not dilated, the vagina is packed again for twenty-four hours. Occasionally, in early abortions, the os does not dilate enough, in which case recourse has to be taken to rapid dilatation, which can be done with Goodall's uterine dilator. Whether the uterine contents have been expelled or not, the uterine cavity should be curetted thoroughly. This is the only means which we possess in order to make certain that the uterus is empty and that there will be no disagreeable consequences. After the curetment a piece of iodoform gauze is introduced in the uterine cavity as a drain and hæmostatic. This is allowed to remain twenty-four hours; after its removal a vaginal douche is administered of weak sublimate solution. The after-treatment is the same as after labor. The patient remains abed for ten days, but is allowed to get up to the commode, or receive a douche daily. A temperature on the first day is of no clinical importance; temperature later is to be treated according to the causes. A saline purge should be administered after the first day; later her bowels are moved by enemata or castor oil.

#### **Irrigation in Gonorrhœa Complicated by Epididymitis and Prostatitis.—**

As a rule, it is considered dangerous to irrigate the urethra when either testicle or the prostate have become infected. There is a general tendency to the belief that in some way the irrigation is responsible for the extension of the inflammatory process into the deeper organs. Whether this belief is based upon a more solid basis than the tendency to look for palpable causes, the *post hoc ergo propter hoc*, we cannot venture to assert. The gonococcus has a tendency to spread upward in the uro-genital tract and downward into the tissues without being disseminated by injections and irrigation, and the percentage of epididymitis, cystitis and prostatitis is certainly not greater in cases which are irrigated than in those treated on the old plan.



The infection once located in the epididymis or prostate, no treatment seems to have a greater benefit upon the inflamed organs than the prolonged irrigation with a hot solution of permanganate 1-3000, or bichloride 1-5000. With weak irrigating fluids there is no irritating effect on the genital tract; but care must be exercised to use a very small catheter, No. 9, and not to insert it higher than the membranous urethra.

It is the best plan not to pass the catheter into the bladder, but rather let the fluid run under increased pressure by raising the irrigator very high in cases where the bladder has to be irrigated. The effect of the hot irrigation, repeated several times daily, is soothing and antiphlogistic—like the effect of a moist dressing upon any ulcerated surface.

**Hydrotherapy in Pneumonia.**—Baruch sums up the effects of hydrotherapy in pneumonia by saying: "While it is not a direct nerve agent, it fulfills all the therapeutic indications, forestalling and controlling all the depreciating elements of the disease. Only one condition is unaffected, namely, the resolution." He has observed a crisis in only twenty-five per cent. of his cases. The local course of the disease seems changed, and resolution proceeds more slowly and more surely. The patient has a normal pulse, normal temperature, and almost normal respiration, from five to ten days before all signs of consolidation has disappeared. In the meantime he permits him to go out in warm weather, and tries to hasten resolution by good food, outdoor exercise, ventilation, etc. He uses in adults, as a rule, the wet thoracic compress, although in children he employs the full bath at moderate temperature.

**Gelatine as a Hemostatic.**—The use of gelatine in cases of aneurism has not unnaturally led to its employment in various forms of hemorrhage. In hemoptysis, hematemesis, hematuria, and various other conditions, it has now been tried, and a certain number of "cures" are reported. There have also been a few alarming results, as, for example, in a case of hemoptysis, where thrombosis of the portal vein was found, on post-mortem examination. A five to ten per cent. sterilized solution, with one per cent. of calcium chloride, has proved effectual in alarming cases of epistaxis after operations in the nasal fossæ; in hemorrhage from gastric ulcer, and in uterine hemorrhages. The latter, when due to the presence of fibroids, would appear to be very successfully treated by the introduction of fifteen to twenty c. cm. of a ten per cent. solution through a gum elastic catheter passed to the fundus of the uterus. Aseptic conditions must be insisted on, and after the injection a vaginal tampon should be introduced and left *in situ* for twenty-four hours.—*Exchange*.

## SURGICAL SUGGESTIONS.

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**The Sterilization of Hands.**—In the vast number of experiments conducted by all investigators there is one noteworthy fact: the hands cannot be rendered sterile. The frantic efforts to secure an aseptic condition of the hands are laudable, even if they remind one of the calculation of squaring the circle. The surgeon's hands cannot be rendered aseptic, but they can be cleaned so that the surgeon can perform an aseptic operation. The problem is not to remove all bacteria, but to remove all removable bacteria, and to perform this removal with as little injury to the surgeon's hands as can possibly be done. Every infection depends upon two factors: firstly, the amount of bacteria; secondly, the virulence of the bacteria. Both these factors are greatly influenced by the work of the surgeon. The hands of a surgeon who waits on a diphtheria case, erysipelas case, or who delves in post-mortem organs or fœcal dejections of typhoid patients, will certainly contain a larger amount of bacteria, and those of more virulent types, than those of the surgeon who shuns infectious cases, or of one who even refrains from handling pus cases. Here we can recognize the duty of the surgeon toward prophylaxis.

If a surgeon cannot confine himself to clean cases entirely, he should have days set aside for the handling of pus cases. In sterilizing of hands the greatest stress must be laid upon mechanical sterilization. The removal of all epithelial *debris*, of all macroscopical dirt and fatty excretion, can be accomplished with the brush and soap, but should be done in such a way as not to irritate the skin and leave a burning, painful surface which smarts under the application of alcohol. Schleich's marble soap, used in running water is of excellent service. This is to be followed by a thorough brushing with ethereal soap, which is rinsed off, and the hands are then submerged in a bowl of ninety-five per cent. alcohol, in which they are held for five minutes.

After the treatment with alcohol they are held in 1-2000 sublimate solution to which three per cent. carbolic acid has been added, for five minutes, when they are to be considered trustworthy. This method is preferable to the permanganate and oxalic acid solution, as the hands remain in better condition; the latter solution causes the epithelium to crack and leaves them in a rough, unhealthy condition after several applications. The greasing of the hands with vaseline is harmful, as it must be considered a foreign element which causes irritation; the vaseline is also transferred from the hands upon the ligatures and sutures, and interferes with the prompt encysting and absorption of the same. For a similar reason the hand varnishes with which extensive experiments are conducted in Germany are elements of danger; they are non-resorptive, and particles broken off from the surface of the hands are likely to remain in the wound and lead to trouble as foreign bodies.

**Cocainization of Spinal Cord in Obstetrics.**—The practicability of administering spinal cocainization instead of general anæsthesia has been



established by Doleres, of Paris, and Bumm, of Basle. Each report a number of cases in which it had been done successfully. One to two cgms. of cocain were injected into the subarachnoid space, and in five to ten minutes there was complete analgesia without loss of motor function. The uterus continued to contract vigorously without pain. The pain of the foetal head pressing upon the soft parts was abolished. Delivery and the later course of the puerperium were normal. The foetus showed no effect of cocainization. The analgesia lasted from one to one and a half hours, and a laceration of the vagina in one case was sewed up painlessly. The uterine contractions seemed to become more vigorous and more frequent, and between the pains the uterus remained in a semi-tense contraction. This fact is considered a contra-indication in cases where podalic version would be necessary. Bleeding seemed less than usual.

**A Sign Preceding Chloroform Asphyxia.**—Koblanc (*Centralblatt der Gynaecologie*) draws attention to athetoid movements of the fingers just previous to impending asphyxia in chloroform narcosis. These movements are not entirely limited to the fingers, but occur also in the eyelids, eyeballs and wrist-joints. The athetosis is not to be confounded with the voluntary repelling movements during the early stages of the chloroform narcosis, as it is only when full anæsthesia is reached, and all the reflexes have become abolished, that this athetosis is seen.

Koblanc lays great stress upon this symptom, and states that its appearance gives the first warning of impending asphyxia. Yet the pulse and respiration are unchanged, and the simple removal of the mask will avoid accidents and stop the movements. To this the writer observes that in the unfortunate cases of asphyxia he has seen, the accident always occurred long before any complete stage of anæsthesia had been reached. In three successive cases of asphyxia, respiration stopped before two drachms of the anæsthetic had been administered. It is also the habit of expert chloroformers to remove the mask as soon as complete anæsthesia has been reached and the reflexes have ceased. Those cases which regain motion, or in which there is a recurrence of the reflexes immediately upon removal of the mask, are not fit subjects for chloroform, and should be anæsthetized with ether. This refers mainly to chronic alcoholics. Koblanc is astonished at not having seen much reference to this athetosis, which is mainly due to the reasons stated above.

**The Angiotribæ in Abdominal Surgery.**—At the recent meeting of the American Medical Association, the question of the practical utility of the angiotriba was made the subject of several papers. The discussion which followed the reading of these papers showed conclusively that the consensus of opinion was against the use of this instrument. The advantages in the application of a reliable ligature certainly warrant the advocates of the ligature in adhering to its use. The angiotribæ can hardly be said to be anything more than a "novelty," and a useless one, at that, in some cases. If, then, we have in the ligature a safe, easily applied method of controlling hemorrhage, why should we resort to the use of an instrument which, as one speaker said, was part of the "plumber's kit?" It is rather absurd for us at this late day to prefer the crushing effect of angiotripsy to the simple tying-off of an artery with a clean, neat ligature.

## NEW REMEDIES.

**Intestinal Diseases of Children.**—Dentition, in my opinion, is only incidental to the gastro-intestinal disturbances known under the general name of cholera infantum. True it is that children are highly susceptible to reflex disturbances prompted by irritation in the gums at the teething period. Any constant irritation, however, may produce the same reflex disturbances. Cholera infantum, coincidental with teething, is apt to be regarded as a result of this physiological process by the thoughtless observer. We must differentiate between a coincidence and a cause. We must differentiate between a coincidence and a contributing cause. Cholera infantum may take place at any season of the year; so may the process of teething. These two conditions frequently take place simultaneously. Cholera infantum, however, is far more likely to take place in the summer—in the central and southern sections in August and September—than in any other season of the year. Indiscretions in diet are the exciting causes. When teething is coincidental we can more readily understand the influence of indiscretion than at a later period. The mere fact of dentition can be responsible only for certain reflex nervous disturbances; but the cause of dentition is the necessity for a change in the child's diet. The child must be supplied with food different from mother's milk, otherwise why the advent of teeth? This necessity is recognized intuitively by the mother, who not knowing how to meet the indication physiologically, is only too apt to kill the child with mistaken kindness. The child gets bread to bite, which the child's gastro-intestinal apparatus is not ready to dispose of properly. It ferments and sets up a gastro-intestinal irritation. Nausea, vomiting and purging results, and finally the doctor is called.

This summer I have had a large number of cases of cholera infantum, subacute gastro-intestinal indigestion and marasmus. Probably my best results were derived from the following line of treatment:

Baby was given podophyllin, one-fortieth of a grain, or calomel, one-tenth of a grain, until the passages became distinctly bilious. Then an intestinal antiseptic sedative and astringent consisting of:

℞ Bismuth subcarbonatis.....	3 j
Glyco-thymoline (Kress) .....	fl 3 ss
Misturæ cretæ .....	q. s. ad fl. 3 iij
M. Sig.—Shake the bottle and take a teaspoonful every three hours.	

It is always a good idea to give the baby an enema of a pint of warm water in which is an ounce of glyco-thymoline at the commencement of treatment, in order that the colon may be relieved as rapidly as possible of its fermenting and decomposing contents, and the lining meet the antiseptic and healing application as soon as possible. Daily enemata of the above solution are frequently advisable.

This summer I have had fewer unfortunate terminations in my cases of cholera infantum than in previous years, and I attribute my good



fortune largely to the fact that, at the instigation of Dr. A. E. Chatfield, of Cleveland, Ohio, I have added this non-irritating antiseptic to my internal medication in inflammatory diseases of the gastro-intestinal tract.

It has proven to have these advantages: It is antiseptic; it is non-toxic in the dose given; it is non-irritant; it is healing. It is about the only antiseptic that can be safely given to children.

G. H. THOMPSON, M. D.,

*Professor of Materia Medica and Experimental Medicine in the St. Louis College of Physicians and Surgeons; Editor of the Regular Medical Visitor.*

**Ka Phenin.**—A new antipyretic and analgesic is presented by the Ka Phenin Chemical Company, of Waverly, Iowa.

Ka Phenin is a derivative of the amido-benzoles in combination with caffeine and other cardiac stimulants combined in such proportions as to effectually prevent the depression which might occur if the first compound were used alone.

Physicians will find this of great value in reducing temperature and relieving pain, especially the pain of neuralgia, sick or nervous headache, la grippe, acute rheumatism (combined with salol), painful menstruation, etc. It is unexcelled as a medium for the administration of morphia or codeine.

For some years Ka Phenin has been used in the leading Chicago hospitals, the proportions of the ingredients being perfected by actual clinical observations. It is pronounced by unquestionable authorities to be a superior antipyretic, and is absolutely non-depressing.

The Ka Phenin Company will be glad to send any of our readers a trial sample free of cost, or will send two two-ounce cans, with a third can to be used in testing, upon receipt of \$2; and if after using the contents of one can the physician is not perfectly satisfied, he may return the other two and his money will be refunded.

**Schlossmann**, of Leipsig, reports extensive experiments with colloidal silver in acute conjunctivitis, and especially in gonorrhœal ophthalmia. One to five per cent. albuminous solutions were employed, being applied to the conjunctiva by means of a camel's-hair brush. The results were very excellent in all cases, and he places the drug at the head of all the remedies at our disposal for the treatment of this often so obstinate affection. The instillations were entirely painless. Improvement began with the first application, and not infrequently the children were discharged cured after four or five days. Schlossmann also employed colloidal silver internally in acute intestinal catarrhs of infectious origin. A teaspoonful of the one per cent. albuminous solution was administered with a little milk or syrup every hour or two, the children taking it willingly. It is possible that the improvement may have been partly due to the simultaneous regulation of the diet. But the author recommends the colloidal silver to all practitioners who treat these infectious intestinal affections with intestinal antiseptics, as worthy of a place in the very first ranks of the drugs available for that purpose. Besides its great antiseptic power, it has the advantage of being absolutely non-poisonous.

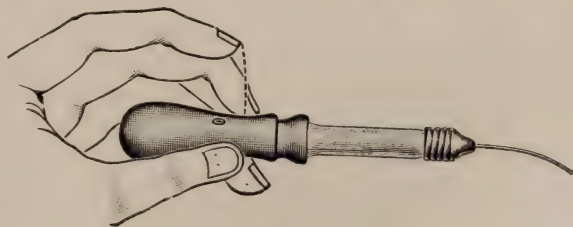
**Treatment of Ulcers.**—In a recent article in *Modern Medical Science*, Dr. T. J. Biggs states that bovine is an ideal preparation for the treatment of ulcers. Old ulcers that refuse to heal under every other method, will rapidly succumb to the blood applications. Prior to each bovine dressing the surface of the ulcers should be thoroughly cleansed by first applying bovine pure, then hydrogen dioxide. This should be thoroughly washed off with Thiersch solution, and bovine pure applied.

**Local Treatment of Leucorrhœa.**—In cases where the discharge is confined to the extra-uterine walls, the use of a non-irritating and stimulating antiseptic irrigation, combined with internal tonic treatment, will give decided amelioration of symptoms in most cases, and permanent relief in many patients. The pulv. antiseptic compound, prepared for the profession by J. S. Tyree, of Washington, D. C., combines all the desirable properties of such a vaginal wash. It consists of a combination of alum, fifty parts; sod. bor., fifty; phenic acid, five; glycerine, five; with the active principles of gaultheria, eucalyptus, thymol and menthol, the combination making an effective antiseptic, stimulating and healing solution when diluted, or a valuable dressing in powder form.

**Burton Ale and Porter.**—The tonic value of ale and porter has long been recognized by the profession, particularly in wasting diseases, in convalescence from acute diseases, and for nursing mothers. They are the most nutritious of all alcoholic preparations on account of the large amount of carbohydrates contained.

The Burton brands are manufactured in St. Louis by the Burton Ale & Porter Brew. Co., and are superior products, combining all the properties and nutritive qualities of good liquid foods, as well as being pleasant drinks. On account of being scientifically brewed and ripened, they are free from the acidity sometimes found in similar products.

**Dunn's Antiseptic Syringe No. 2.**—The new syringe offered by Dr. J. Austin Dunn, of Chicago, is unique in that it combines the advantages aimed at in other similar instruments, without the disadvantages common to them. This instrument consists of a rubber bulb fitted over glass cylinder, the bulb having a vent, permitting the operator to control the flow of the liquid. Owing to its construction the medicament does not come in contact with the bulb, this being prevented by a very simple



valve in the bulb end of the glass cylinder. The perforation in the valve opens only under pressure of air from the bulb, sufficient to operate the syringe, and the elasticity of the rubber causes it to close as soon as the



finger is removed from the bulb. Syringe No. 2 has an iridio-platinum needle, which makes it a practical lachrymal or aspirating syringe, and fits it for meeting all the requirements of antiseptic surgery in the bulb force syringe.

**The Dunn Antiseptic Dropper No. 3.**—This instrument combines all the advantages of the above, except that it is without the iridio-platinum needle, and is intended for the ordinary purposes of the medicine dropper,



but combining with the antiseptic syringe] the following points of superiority:

*First.*—No medicament can pass into the bulb. *Second.*—The inflow and the outflow is under perfect control of the index-finger. *Third.*—The air which operates the syringe is admitted through the bulb, and not through the needle. *Fourth.*—One drop can be retained in the point of the syringe when pointing upward as well as when pointing downward.

**Sun Baths.**—There is a tendency to revert to the sun baths which were in vogue when the Roman Empire was at its height. At Straulau, a suburb of Berlin, the experiment has been tried with great success. There are enclosures for men and enclosures for women, where, clad in meager attire, overworked and jaded humans subject their bodies to the open-air treatment, thus reverting to one of the customs of our earliest ancestors. In the men's enclosure are dumb-bells, parallel bars, and other gymnastic apparatus; materials for writing are also provided, and many literary men do their work here. The medical profession in Berlin express themselves very satisfied with the results of the experiment, and the entrance fee to this modern Eden is sixpence. There is no reason why sun bath establishments should not be opened at sunny spots on our south coast. When holiday making at the seaside, bathing is *de rigueur*, in spite of the fact that the after-effects in subjects whose circulation is not too strong counteract the pleasures of the dip. The fact that the skin is part of our excretory system is not recognized by the average Englishman. If, while the weather permitted, we could even for an hour a day revert to the nude condition of primitive man, the feeling of vigor so obtained would go far to reconcile us to so spending part of our leisure. Civilization is only skin-deep, and the nearer we approach the savage in our way of outdoor living the more vigorous we become.—*Physician and Surgeon.*

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### VALUE OF THE WIDAL REACTION TEST.

The value of the Widal reaction test is well shown by the following table given us by Dr. Neitert, of the St. Louis City Hospital. The figures shown in the report are certainly the strongest argument in favor of the test that could be desired and as further proof that we must look upon this as the most reliable sign of typhoid there is in the symptomatology of the disease. The diagnosis of typhoid fever at an early, or even at a later period, has always been a stumbling-block to physicians, so that a symptom which occurs in ninety-six per cent. must be regarded as reliable, and should be looked for in every case of continuous fever. In the sanitary reports of the '80s and early '90s, the student comes across typhoid-fever tables which frequently give him the impression of unreliability, although compounded by men of high standing and integrity.

The frequent occurrence of typhoid after operation or after confinement, the higher death rate given for malaria than for typhoid in northern cities where malaria of only a very benign type occurs, have often provoked comment upon the correctness of the diagnosis, without a possibility of tracing the error. With a symptom occurring positively in ninety-six per cent. of cases, the statistics on the disease will improve, and likely diminish the fatality credited to malaria in the East and North.

While the positive appearance of the Widal test points to typhoid fever in the past or present, it seems from the following report that the negative test does not exclude typhoid. This is probably due to the fact that the tests have been made too early. In most cases the reaction can be found in the first week. Does the antitoxic property of the blood, upon



which the reaction depends, develop in all cases with the same promptness? This is not to be expected, especially when, as a rule, the cases in which Widal's reaction is not present run a mild course, and do not, as a rule, lead to frequent examinations.

The test is a delicate one, and depends upon a great many adjuvant factors; but, taking into consideration all of its shortcomings and defects, it is still one of the most reliable tests at the hand of the physician in any disease, and should be made promptly in all cases of suspicious fevers, in connection with the Diazo reaction of the urine.

#### REPORT ON WIDAL'S TEST.<sup>1</sup>

The serum test has been employed by us during the past year in every case where symptoms or signs of the disease pointed to the presence of typhoid fever; and it was found of considerable value in many instances where the early symptoms were obscure.

The following is a brief report of the number of cases and the diseases in which the test was made, with the result:

DISEASE.	Posi- tive.	Nega- tive.	Total.	DISEASE.	Posi- tive.	Nega- tive.	Total.
Typhoid Fever .....	53	12	65	Small-pox .....	1	1	1
Typhoid and Malaria .....	4	.....	4	Cerebro-spinal Meningitis .....	7	7	7
Lead Poisoning .....	1	.....	1	Scorbutus .....	1	1	1
Malaria .....	3	40	43	Thermic Fever .....	1	1	1
Dysentery .....	1	1	2	Phlebitis .....	1	1	1
Nephritis .....	1	3	4	Enteritis .....	5	5	5
Bronchitis .....	1	1	2	Pvosalpiux .....	1	1	1
Appendicitis .....	.....	4	4	Rheumatism .....	1	1	1
Pneumonia .....	.....	7	7	Lepto-meningitis .....	2	2	2
Obstruction of the Bowel .....	.....	1	1	Septicæmia .....	3	3	3
Peratitis .....	.....	1	1	Auto-intoxication .....	1	1	1
Hysteria .....	.....	1	1				
Phthisis Pulmonalis .....	.....	5	5	Total .....	64	100	164

From the above report it will be seen that the test was found to be positive in sixty-four cases. Of these, fifty-three were typhoid fever, four typhoid and malaria, one lead poisoning, three malaria, one dysentery, one nephritis, and one bronchitis.

Brief histories of the cases in which Widal's was found positive, excepting those of typhoid fever, are herewith given:

CASE NO. 1.—Was a patient forty-five years of age; admitted June 16, 1899; gave the history of having had typhoid fever seven years prior to entering the hospital.

CASE NO. 2.—Was one of malaria, age sixteen; admitted August 26, 1899. This patient had typhoid fever four years before entering the hospital.

CASE NO. 3.—Also one of malaria, in a patient forty-two years, admitted February 24, 1900. This patient had an attack of long-continued fever six months before entering the hospital, which was probably typhoid.

CASE NO. 4.—Was a patient, thirty-five years of age, suffering from malaria, and admitted to hospital July 3, 1899. He stated that he had had typhoid fever when he was twenty-four years of age. This was eleven years prior to entering hospital, which shows that the test may be positive for a long period of time following an attack of typhoid fever.

<sup>1</sup> Published by courtesy of Dr. Max Starkloff, Health Commissioner, St. Louis.

CASE No. 5.—Was one of dysentery, age twenty-six; admitted December 11, 1899. This patient stated that five months previous he was sick with a severe fever, accompanied with diarrhœa; and from the history of the case it is more than likely that it was an attack of typhoid fever.

CASE No. 6.—Was a patient, twenty-eight years of age, suffering from nephritis; admitted September 27, 1899. Patient was unconscious, and, therefore, no history could be obtained. He died of nephritis October 2, 1899.

CASE No. 7.—Forty years of age; admitted March 13, 1900; suffering from bronchitis. Gave history of never having been sick.

From the above histories it will be seen that of the seven cases not typhoid, and in which the Widal's reaction was positive, three give a positive history of having had typhoid fever within a period of eleven years prior to the test; two presented histories pointing to typhoid fever, and in two cases no history of typhoid could be obtained. Thus, in our observation, the test was found positive in two cases not typhoid and without any history of the disease, and positive in sixty-two cases where patients had typhoid fever, either at the time the test was made or a short time prior; in other words, 96.75 per cent. of the patients in which the test was found to be positive either had typhoid fever at the time, or had had it a short time before the test was made.

#### TUBERCULOSIS OF THE MIDDLE EAR.

We read much concerning the different manifestations of the tubercle bacillus. For instance, in first order, we associate it with a pathologic process in the lungs, the phthisis pulmonalis of the pathologic-anatomists. Then we speak of a tubercular affection of the bones, of the peritoneum, of the kidneys, prostate, bladder and other sites in the human body. Among the rarer complications, we may speak of a tubercular involvement of the middle ear in connection with a phthysical process in the lungs. While this complication is exceedingly rare, it should always be borne in mind as a possible complication of this protean disease. Chronic middle ear catarrh is a very common affection, and as a rule its etiology is obscure, for the reason that its subjective symptomatology is often overlooked for a long time by patients, especially in young children. A most interesting case of otitis media purulenta, caused by the tubercle bacillus, was seen by the writer at Cassel's Klinik fuer Kinderkrankheiten in Berlin recently. The case occurred in a young boy of eight years. He had been affected with signs of symptoms of phthisis pulmonalis for some months back. Following upon these manifestations occurred a discharge from the ears. After repeated searches, the tubercle bacillus was demonstrated in this discharge, in connection, of course, with the other cocci commonly found in suppurative processes about the middle ear.

The case showed the possibility of the invasion of even such a remote structure as the middle ear by the tubercle bacillus wafted from a phthysical lung. Infection in such a case travels through the blood stream. Just why it should affect the middle ear is difficult of explanation. It probably is predisposed in some instances to tubercular inflammation, but by virtue of its anatomical position it certainly deserves exemption from such processes.

It is easy to understand how an inflammation of a purulent nature could be set up in a place like the middle ear, once a micro-organism of the pyogenicity of the tubercle bacillus has invaded it. The only source



of speculation is the selection of a remote part, such as the middle ear, for such a complication. However, the onset of a tubercular meningitis in the course of pulmonic phthisis is equally as mystifying, from an etiologic point of view.

Cases of this kind are exceedingly interesting. While their occurrence is comparatively rare, still the possibility of the thing should be continually borne in mind, so that prompt recognition should follow their appearance before us. From a standpoint of therapeutics, local therapeutics, we cannot expect to do much more for these patients than we would do for patients suffering from middle ear suppuration referable to other micro-organic exciting factors.

We can do a great deal, however, in the way of general medication for tuberculous disease, so that the local disease is attacked with general measures. General hygienic regulations, fresh air, good food, systematic exercise, in short, all the conditions long since recognized as beneficial for victims of "la maladie tuberculeuse," should be enacted. The influence of these general measures, together with a rational local administration of the case, is sure to beget the best possible results. G.

### THE BACILLUS AEROGENES CAPSULATUS.

William Welch, in his Shattuck Lecture before the Massachusetts Medical Society, has given us a classic description of the micro-organism called the bacillus *aerogenes capsulatus*, first described by him (in connection with Nuttall) in 1892. The organism is capable of provoking quite a variety of disorders, which circumstance makes it of sufficient importance to warrant every one, be he bacteriologist or not, in becoming familiar with it. It is especially important inasmuch as it is the cause of the production of free gas in different parts of the body. It is a long thin bacillus having a capsule which can easily be demonstrated. It grows often in chains.

This organism is the cause of gaseous emphysema. Many of the cases of malignant edema, so called, are really cases of gaseous emphysema caused by this organism, which is too often mistaken for the bacillus *maligni oedematis* by observers.


The bacillus *aerogenes capsulatus* of Welch may cause gaseous phlegmous conditions clinically like malignant edema; it may cause infections of the uterine body associated with gaseous emphysema. It is of especial importance to note Welch's experience with bacillus *aerogenes capsulatus* in infectious conditions about the urinary organs. After external urethrotomy, for instance, this organism has been found with gas bubbles in the urethra, bladder, etc.: in a case of urethral stricture with cystitis, for which perineal section was done, gas-bacilli were found three-quarters of an hour after death in large numbers in the bladder, ureters and renal pelvis, and some were found in the blood of the right ventricle.

These gas-bacilli also cause "gas-cysts" of the gastro-intestinal tract. A condition in which it has been twice identified as the causative factor is pulmonary gangrene. Welch also makes the observation that these bacilli can be present in the body without gas production.

The subject is intensely interesting and deserves deep study by those who follow this line of work. Possibly much light will be shed on this hitherto obscure condition by the splendid work of Welch.

### BUBONIC PLAGUE IN GLASGOW.

The plague has sprung up in another European city—Glasgow, Scotland. Already several cases of undoubted bubonic plague have arisen there, and the authorities of health in that port are using every endeavor to check the spread of the disease. The city has been quarantined against by European and American shipments. The outbreak at the present time is limited, and it is to be hoped that it will be successfully combated by modern means.

 This disease is certainly the great danger to the future of nearly every country in the world. Hardly a place of any consequence has escaped its inroads. Starting from its far eastern home, it has spread gradually westward. America, Brazil, Great Britain, Russia, Portugal, Spain, France and Italy have been invaded. Fortunately, modern hygienic measures avail immensely in coping with the outbreaks of the plague. Again, by means of the Haffkine prophylactic and the Yersin anti-pest serum, science promises to reclaim the victims of this disease. The results thus far attained have been splendid in the prophylaxis and treatment of the plague. The authorities at Glasgow will probably avail themselves of what science has offered for the treatment of the "black death."

### MASSAGE AND PASSIVE MOVEMENTS IN THE TREATMENT OF SOME FRACTURES.

Lucas-Championnière delivered a most interesting talk at the meeting of the surgical section of the International Medical Congress in Paris on the subject of the treatment of those fractures which demand massage and movements for their repair instead of immobilization. It is apparent that there are some fractures wherein immobilization is of necessity contraindicated. It is of this class that Lucas-Championnière spoke. This class includes fractures of the two extremities of the humerus; fractures about the elbow-joint, especially of the olecranon; radius and wrist fractures; clavicular and fractures about the middle third of the leg; all malleolar fractures; fractures of the femur without displacement, and fractures of the shoulder-blade.

The advantages in this method are these: union occurs more rapidly and more compactly; pain disappears quickly. A most decided advantage, and one which is of extreme importance, is the rapid disappearance of "contracture;" this, of course, means that deformity will be most readily corrected. In addition to these advantages, we might state that the installation of massage soon brings about an absorption of effused blood—a most vital point, inasmuch as the vitality of the skin is at stake. And lastly, by treating the joint-fractures in this way, we can rely on securing a free movement to such a joint after recovery.

The method is certainly rational, and has many points which commend it.

It is rather strange that the profession has been tardy recognizing this method of treatment. The experience of Lucas-Championnière certainly is worth a great deal, and his method can well be followed by those whose function it is to handle such cases.



### A NEW METHOD OF FIBRIN STAINING.

To those of our readers who are especially interested in pathologic technique, the following modification of Weigert's staining method as advised by Kockel will prove interesting:

1. Imbed the hardened specimen in paraffin.
2. The smallest possible sections should be cut, and attached to the glass slide by means of the Japanese method (albumen and glycerin, etc.).
3. Remove the paraffin with xylol.
4. Place specimen for five to ten minutes in one to five per cent. solution of chromic acid (watery solution).
5. Wash in water until the specimen looks pale but yellow.
6. Stain fifteen to twenty minutes in Weigert's hemotoxylin.
7. Wash off in water.
8. Stain one minute in concentrated watery alum solution (ten per cent.) until the section appears deep blue.
9. Wash in water.
10. Sections should be "differenzirt" from three to six minutes in Weigert's borax-ferricyanide of potassium solution (borax, 2 parts; ferricyanide potassium, 2.5 parts; aquæ dest., 100 parts) which has been diluted three times with water.
11. Wash in water.
12. Lay then fifteen to sixty minutes in concentrated alum solution.
13. Wash off in water.
14. Stain nuclei with saffranin or carmin.
15. Wash in alcohol.
16. Oil. Xylol. Balsam.

By this method fibrin appears either blue-black or dark blue color. The remainder of the picture is colorless or else brown. One of the most decided advantages which this method possesses over Weigert's is that it can be used for any specimen, no matter how it has been hardened; while we know that Weigert's stain, for instance, does not stain well specimens hardened in Flemming's solution. This method does not stain bacteria, amyloid, mucus or colloid well, as it gives a striated appearance like smooth muscle fibers.

G.

### TUBERCULAR PERITONITIS IN CHILDREN.

The treatment of tubercular peritonitis in the adult has been rather freely discussed of late years, and radical treatment for such cases seems to have been attended with results commensurate with the enthusiasm with which such treatment has been advocated by these men, physicians and surgeons alike. The subject of the treatment of peritonitis tuberculosa in children, however, has not received even marked attention. It is known that König (*Centralblatt f. Chirurgie*, 1890, No. 35) first called attention to the utility of simple laparotomy in tuberculosis of the peritoneum as a remedial agent. Israel (*Deutsche med. Wochenschr.*, 1896, No. 1) claimed that the operation was seldom useful in children under ten years of age, for the reason that tubercular peritonitis seldom occurs in that period of life.

A most valuable contribution to the subject of the treatment of peri-

tonitis tuberculosa appeared in the *Deutsche medicinische Wochenschrift* for September 13, 1900 (No. 37, 1900). It was written by Dr. Cassel, of Berlin, and deals in a masterly style with the subject, embodying in the report results of surgical treatment of four cases of the disease by surgical intervention. The cases were clearly tubercular. In three of the cases the diagnosis was confirmed by a microscopical examination. In three of these four operated cases sufficient time has elapsed to allow Cassel to state that cure resulted. In the fourth case sufficient time has not elapsed since the operation to allow any such conclusion. In other words, it is to be strongly advocated that in cases of tubercular peritonitis in children, simple abdominal section, "to let in the sunlight," is the treatment *par excellence*. While it is true that every form of tubercular peritonitis is amenable to cure by this means, we should not lose sight of the fact that disappearance of the ascites does not, in every case, mean a *restitutio ad integrum*; it may mean a continuance of a latent process which, sooner or later, leads to *exitus lethalis*. This fact is of some consideration from a prognostic point of view. G.

#### GENERAL INFECTION FROM URINARY DISEASE.

Elsewhere we print a translation of an article on the subject of urinary diseases with general infection—an experimental study. The subject of general infection in association with the residence of a pathogenic micro-organism in the kidney is one full of interest. The possibility of its occurrence has often been brought forward, and now we have experimental evidence to prove it. This evidence consists of numerous experiments made by Posner and Cohn (*Berliner klin. Wochenschrift*, July 30, 1900), in which living cultures of pathogens and non-pathogens were injected into the kidneys of rabbits, the ureter on the injected side having been previously tied off. From these experiments the authors came to the conclusion that there is certainly good reason for supposing that a micro-organism can escape into the general blood stream after entering the kidney pelvis.

Cases in practice are not infrequently met with where patients who, for instance, have been suffering with pyelitis for some time, suddenly develop general symptoms of toxemia. They sometimes develop lesions at places remote from the kidney, and the only explanation for these lesions is a metastasis through the blood stream. The experiments serve to clinch such clinical observations and give them a sound scientific basis, which has been entirely lacking in the past. The researches are most interesting, and are of vital importance.

#### RETRO-PHARYNGEAL ABSCESS.

It is a strange thing that there is no malady so often overlooked entirely, or else misinterpreted, than some cases of retro-pharyngeal abscess. The general clinician and the pediatricist, in particular, should ever be on the *qui vive* for this trouble. It is often obscure, and will seldom give leading symptoms—more often does it give misleading symptoms. A valuable point, which was called to the writer's attention, is this: In obscure cases, where we find an enlargement of the submaxillary or cervical lymph glands, where no explanation for the same can be found, be sure to insert first the index finger of the right hand and then that of the left hand into



the child's mouth, and *feel* for a retro-pharyngeal abscess. It will surely be diagnosticated, if present, by this means, and a sorry blunder thus avoided. Retro-pharyngeal abscesses have a penchant for hiding themselves from the eye of the clinician, and it is necessary to be ever on the alert for them. Much depends upon their recognition: the avoidance of that unfortunate occurrence, mal-medication; the child's life, perhaps, and finally—an important consideration, too, in this time of the survival of the fittest—the physician's reputation.

### DANGER IN DUST.

"Look out for the little brown death shrouds that dance about and along the streets these days—whistling around corners, peeping into open upper story windows. If there is any one who does not recognize these merry little fellows, they have but to reflect a moment, and then when they see a breeze spring up, from nowhere apparently, instead of leaning out of the window to breathe its cooling air, they will rather close the window and swelter; for those vagrant breezes, attendant upon the heated air, are as full of death as are the sewer-laden zephyrs of an Indian city.

The hot weather of the past summer has been attended by many inconveniences that cannot and could not be remedied; but dust can be allayed in any city where the funds set aside for the purpose are not diverted into the pockets of politicians. Dust, dust, dust; the amount of it and its universal distribution brings constantly before one the final and speedy end of man. The city is in such condition in this regard as it has never been before. Along the streets dust lies in ruts and furrows, and in the resident portion of the city it lies on the lawns like a brown pall. Every breeze seems to catch it up, and after it has passed one finds the glistening stuff sprinkled on the shoulders and choking the nostrils. But it is not from the æsthetic point of view, nor from the disagreeable features attached thereto that this subject is worth consideration. It is the fact that this dust has become saturated with death that is dealt out with a liberal hand by the winds."

The above was taken from a recent issue of a Denver paper, and indicates that the Denver people, at least, are beginning to think. There is much that is fanciful in this description, still there is truth. It is stated that the Denver physicians have noted that, following a dust storm in that city, throat, lung and nasal troubles are nearly double what they are under ordinary conditions. In our talks with physicians of that place, we are led to infer that there exists in the minds of a great many of them a belief that Denver is rapidly becoming a tuberculosis infected place. The extreme difficulty of getting the officers to realize the value of sanitation is one of the hardest elements to contend with. The unseen, to the layman, has no danger in it; and, as was remarked by one of the physicians of Denver, "if bacilli were as large as grizzly bears, there would be no end to sanitation." In any event, statistics show that infection is constantly increasing in Colorado, particularly at Denver and at Colorado Springs. One physician to whom we talked averred that he believed it was only a matter of time that the whole region would be affected. If life can in time adapt itself to conditions, there certainly would come a time when the bacilli of tuberculosis would thrive in altitudes; in fact, he believed the time had come for them already, for if there were vigorous bacilli anywhere on earth, they must reside at present in Colorado. It was a certainty to his mind that there were concentrated in Colorado every form and character of bacilli; and if diversity of mixture constituted the best elements of growth, it could be found there, since seemingly no corner of earth was unrepresented by its consumptives. He doubted the advisability of sending consumptives to this point, because he believed that locality could not correct the constantly increasing numbers of consumptives which were brought to certain localities.

## ORIGINAL ARTICLES.

### ERICHSEN'S DISEASE—DOES IT EXIST?

#### VARIOUS INJURIES DUE TO ACCIDENT.

BY ISHAM H. GOSS, M. D., of Athens, Georgia,

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IF ANY one subject has engaged the attention of railway surgeons to the exclusion of all others, it is that of injuries of the spine, and especially that class of injuries which are due to indirect violence. In those cases where the injury has been applied directly to nervous tissue, the results are so immediate and in such perfect accord with our present knowledge of the finer anatomy of the cerebro-spinal axis, that any discussion of their nature would be out of place. Our attention is rather to be directed to that questionable group of spinal injuries in which it is claimed that concussion of the cord has taken place without any fracture, dislocation, or other gross lesion being found in the spinal column.

It is proverbial that the laity are fond of a name, and this remark applies with striking force to the malingerer. Erichsen, in writing his lectures in 1866, supplied a long-felt want, and from that time until the present day the records of our courts are replete with damage suits for "concussion of the spine," "railway spine," "Erichsen spine," "concussion from indirect violence," and so on *ad nauseam*. It is a rather significant fact that prior to writing his paper Erichsen was disappointed in his application for the position of railway surgeon to one of the large English corporations. Admitting that his intentions were the best, it is nevertheless only too painfully evident from his writings that he was unconsciously biased by his personal rebuff. This supposition gains additional color from the fact that Erichsen himself admitted in his later writings that the conclusions reached in his earlier studies were erroneous.

His acknowledged position, his surgical attainments, and great rhetorical gifts made his paper authoritative in his day, and it has been only in the last decade, when his work was reviewed by the strong light of modern pathology, that the tangled mesh of insinuating and often misleading statements could be unraveled and seen in its true light. Had he been the best neurologist of his time he would still have been ignorant of the histologic structure of the cord, ignorant of its systemic degenerations, ignorant of everything in spinal pathology, except a few facts about locomotor ataxia. He never examined the reflexes, rarely mentions anesthesia, and was, in common with all men of his time, necessarily deficient in a comprehensive knowledge of nervous symptomatology. To quote from Pearce Bailey: "Erichsen's theory of concussion of the spinal cord as a pathological entity was purely hypothetical. Microscopical technique is more advanced now than it was at the time he wrote, yet it has thus far failed to disclose not only molecular pathology, but any such thing as



molecular structure. Molecular disorders are still in the domain of speculative science. The significance of local spinal anæmia and hyperæmia, to which he ascribed much importance, is absolutely unknown. It is not intended to cast any discredit upon Erichsen or his work, but, writing at the time he did, it would have been impossible for him to formulate a theory which could serve as an authority to-day." It is not surprising then to find that his lectures throughout are vague and indefinite, cause and effect being constantly confounded, and his deductions, although clothed in the seductive language of the master, absolutely without value.

Erichsen opens his lectures with a misleading analogy between the brain and spinal cord. Their anatomic relations absolutely exclude any such comparison. Let us consider for a moment upon what a feeble basis this analogy rests. The brain practically fills the cranial cavity, no great distance separating it from its containing wall; the bones are subcutaneous, so that any force applied to the scalp necessarily acts directly upon them. The spinal cord, on the other hand, is suspended in a capacious canal by its membranes and by the nerve trunks passing out through the intervertebral foramina, and so surrounded by cerebro-spinal fluid that considerable space exists between the cord and the vertebral column. Nature has still further protected this portion of the nervous system by surrounding its bony case with a thick muscular pad—the extensor mass—which makes injury to the nervous tissue, without demonstrable lesion of its bony canal, well-nigh impossible. Sir Frederick Treves aptly remarks: "It is difficult to understand, therefore, how a structure so protected can be so violently disturbed by a shock received upon the body as to undergo a grave and progressive loss of function. The cord is, indeed, somewhat in the position of a caterpillar suspended by a thread in a phial of water. It would probably be difficult to permanently disturb the internal economy of such an insect (even if it had a structure as elaborate as the cord) by other than violence that would be comparatively excessive."

Modern pathology has taught us, moreover, that concussion of the brain, the tremefaction of the elder Gross, is an expression without meaning; there is always some laceration of the cerebral tissue which will account for the symptoms. With our present methods of refined diagnosis, and our accurate knowledge of the course of the great nervous tracts, this injury can be definitely located—it is immediate and organic in its character. It will thus be seen that the so-called concussion of the cord is a surgical chimera, the existence of which is doubted by all. Erichsen's expression, "concussion of the spine," is still more misleading. As is very properly remarked in Holme's Surgery, we do not speak of concussion of the cranium, yet this portion of our bony anatomy is much more exposed to the effects of violence.

A brief review of some of Erichsen's cases will at once demonstrate the inaccuracy and vagueness of his ideas. Many of them are examples of severe injuries to the cerebro-spinal axis—cases which, to-day, would fall under the commonplace headings of meningitis, spinal hemorrhage, and fracture and dislocation of the vertebræ, with well-marked and characteristic clinical symptoms and signs. A very small proportion can be interpreted as being due to functional disturbance of the entire nervous system. From his own description it is frequently difficult to determine the

exact nature of the patient's ailment. Of his series of fifty-three cases, only seventeen were injured on the railway. Case six is undoubtedly an example of hysterical paraplegia; cases fourteen, fifteen and sixteen proved to be unsuspected fractures and dislocations; cases seventeen to twenty-four are imperfectly reported; case forty-three exhibited no spinal symptoms except those of syphilis, the patient making a good recovery upon iodides. In case forty-eight he absolutely fails to distinguish between symptoms of cerebral and spinal origin, attributing a facial palsy to an injury of the cord. His one solitary autopsy, which he uses as a pathologic basis for his so-called "spinal concussion," was surely a case of locomotorataxia. Space forbids a further or detailed analysis of the entire collection. It is, however, unnecessary—a chain is only as strong as its weakest link!

Erichsen believed that an individual who had received a severe shaking-up could subsequently pass through a latent period of months, exhibiting no symptoms whatever, and then gradually evolve a long chain of disturbances ending in permanent disability and serious impairment of the entire nervous system. It is sufficient to say that pathologic evidence for such a case has never been demonstrated upon the autopsy table. It is striking that with our improved pathologic technic, and considering the intense interest which this question has excited, not a single post-mortem has been recorded which could establish the possibility of concussion of the cord by indirect violence, without most serious and demonstrable concomitant lesions. If such evidence existed, it would be heralded in public places, only too loudly, by anti-corporation lawyers and physicians. As a matter of fact, these cases instead of languishing away almost invariably recover when a substantial amount of damages has been awarded to them. Extreme illustrations may be found in an article by Hodge in the April number of the *Boston Medical and Surgical Journal* of 1881. In one case the plaintiff celebrated his \$10,000 verdict "by becoming uproariously drunk, and it required the united strength of three policemen to take him to the station house." This individual subsequently followed the arduous calling of a junk dealer for many years. A second case is quoted in which there was a claim of impotency resulting from the injury, and the jury expressed their sympathy by a verdict of \$18,000, yet somewhat more than nine months afterward the man was convicted of bastardy.

The credit of exposing the fallacy of Erichsen's teaching must without question be given to Page. Writing, as he did, seventeen years after the appearance of Erichsen's lectures, he had the benefit of more advanced research and could consequently examine his cases more critically than could his distinguished predecessor. His position as railway surgeon to the London and Northwestern Railway of England made his opinion of particular value. No one who reads his work can escape the conviction that he treated his subject with absolute fairness and impartiality. In the appendix of his book he tabulated the results of two hundred and thirty-four cases, which he had kept under observation for periods varying from two to five years after the accident. His conclusions were, that although a return to the normal may occasionally be much delayed, most cases completely recover.

In the next few years the majority of these cases were usually ex-



plained as resting upon an hysterical basis. Putnam reported a case of hysterical hemianesthesia and paraplegia following an accident, and dwelt strongly upon the presence of hysteria in these conditions of concussion. Walton tried to clear up matters by proposing to substitute the expression "railway brain" for that of "railway spine." In 1884 Dana published a complete *resume* of these injuries, in which he came to the conclusion that "concussion is mental shock and physical bruising." Thomsen and Oppenheim, in 1885, attempted to prove the existence of an organic basis for many of the traumatic affections under discussion, but their efforts in no way weakened the theory of the hysterical character of these disorders. The "general traumatic neurosis" described by Strumpell, in 1888, was a mixture of hysteria and neurasthenia. The same can be said of Oppenheim's description of the traumatic neurosis which he embodied in his monograph appearing in 1889. His work was entirely clinical, and he did not describe any direct lesions of the nervous system. In the same year, Clevenger, of Chicago, published a book on "Spinal Concussion," in which he endeavored to corral these varying disorders under the title of "Erichsen's Disease." This name certainly has not met with the approval of those most able to form intelligent conclusions. The best criticism of Clevenger's book is that of Gilles de la Tourette, who designates it as "the triumph of confusion of ideas upon the subject."

Such, in brief, is the history of the subject under discussion. While admitting the occasional possibility of obscure symptoms being due to minute hemorrhages, the majority of this class of injuries will be found to be cases of hysteria, neuromimesis, or malingering. At the present day no one could well attribute spinal symptoms to a previous accident in which there had been an intervening latent period of perfect health for several months.

A word as to the examination of these cases. The testimony of the surgeon is frequently directly opposed to that of the neurologist. It is doubtless due to the different class of cases seen by the two individuals. Both are honest in the expression of their views, but as long as our present system obtains, greater weight must be given to the opinion of the surgeon. Of what value is the testimony of the neurologist, when he sees the individual for the first time, months after the reception of the injury? Is it fair that evidence like this should offset the opinion of men who see these cases immediately after the accident? Is it not true that the surgeon will see hundreds of cases that are settled outside of court and with which the neurologist never comes in contact? The neurologist is more familiar with the terminal stages of hopeless disease which waste away in the hospital; the surgeon, on the contrary, sees not only examples of severe organic injury, but also those cases in which functional disability is claimed, and in which he must be constantly on his guard, endeavoring on the one hand to do justice to the individual, on the other to see that a corporation is not mulcted by the unscrupulous malingerer.

It has been well said that "no electric test has yet been found which is not rather a test of the credulity of him who trusts it." An unexpected hair-pull will frequently reveal more than the electric battery or the esthesiometer. In concluding this portion of my subject I cannot do better than to quote from Page, who says: "Nothing has struck me as more extraor-

dinary in my experience of railway injuries, than that in the examination of them all, common sense—the best and surest diagnostic guide—should be so often abandoned, and reliance placed rather on methods of examination which are of scientific value only, when every suspicion of exaggeration or imposture can be put away.”

The juror is also frequently confused by the claim of the plaintiff that certain nervous diseases are due to injury. The commoner ones in this category are locomotor ataxia, spastic paraplegia, amyotrophic lateral sclerosis, progressive muscular atrophy, and paralysis agitans. As far as the sclerosis of the cord are concerned, the entire group are so insidious in their onset, that a searching anamnesis will usually reveal indubitable evidence of the existence of the disease before the reception of the injury. According to Fairchild, those injuries which involve hemorrhage, contusion or laceration, may sometimes be regarded as etiologic factors in the production of these diseases, but the neurasthenic and hysterical cases do not, in his judgment, result in this manner. In one hundred cases, fifty of which were the subject of litigation in the past fifteen years, he did not find one such instance, despite the fact that he had observed many of them for years subsequently. In reference to these cases Clevenger makes a most practical suggestion. These are his words: “The surest method for the unmasking of a malingerer consists in having him represent some definite type of disease. Let him choose at pleasure from the variety which the medical books offer, but when he has chosen let him stick to it. To carry out the fraud in the presence of a physician who is more familiar than he with the particular type of disease represented is well-nigh impossible.”

#### INTERNAL INJURIES.

An individual will frequently excite great sympathy in the mind of a jury by claiming that his vital functions have been most seriously impaired by an injury to the chest. Pointing to a wound over the heart, he will tell in a dramatic whisper that he has coughed up quantities of blood, or dilate upon the symptoms of his supposed emphysema, empyema, pulmonary abscess, or pneumothorax. A little reflection will convince anyone that all of these affections can only have their origin and inception in a fractured rib. Now, if there is one thing the modern surgeon can do, it is to diagnose a fracture. Five years ago, a fleshy individual could challenge the most skilled diagnostician, to say positively that a costal fracture did not exist. The Roentgen ray has made such a possibility a thing of the past. Although the millstone retains its old-time opacity, even blind justice can see through several inches of fat and muscle and detect a normal rib.

#### HERNIA.

We sometimes hear that a hernia has been due to an accidental injury. A reference to any of the large and carefully collected statistics will show the rarity of such a possibility. Some authorities claim that one person out of every eight suffers from this affection. If a single traumatism played any role in its development, the importance of accidental injury would most certainly be emphasized by surgical experts. Even if a rupture were due to a traumatism, we must admit the previous existence of a congenital sac or other developmental errors, for which a corporation could



not be held responsible. If, in addition to these errors, the individual favors an elongation of the mesentery by alcoholic excess or indulges in violent intermittent physical exertion, he alone should suffer the penalty. The classic symptoms of hernia are so well marked, and the signs of a recent descent of the bowel are so distinctive, that any careful man will have no difficulty in throwing out the unjust claim of the ignorant or unscrupulous.

#### FLOATING KIDNEY.

The observations made in reference to hernia will apply with equal force to floating kidney. A few authorities mention trauma as an etiological factor, but in all of these cases the traumatism is small and frequently repeated. According to Lindner, Drummond, and others, this displacement is always due to a congenitally relaxed condition of the peritoneal attachment of the organ. Its preponderance in women and upon the right side, point so clearly to anatomic and physiologic predisposition that theoretically a single injury is unable to produce it. The renal artery and vein certainly cannot be lengthened in a moment. A careful search through the literature failed to discover a single example of such an occurrence. It is such an easy matter to photograph the kidney by means of the X-rays, that its normal situation can be readily established even in the corpulent.

#### BONES AND JOINTS.

Injuries to these structures have always been a fertile source of damage suits. A feigned inability to use a limb may readily be detected by comparing its circumference at various levels with corresponding measurements of the opposite side. If the patient has been using the extremity when unobserved, atrophy of disuse—a constant sign of actual disablement—will have failed to make its appearance. Until the advent of the X-rays we were frequently in the dark as to the possibility of the existence of deep-seated fracture and dislocations. Our information is now so exact that we can tell to a nicety the exact relations of osseous and ligamentous structures. Torn ligaments, displaced cartilages, floating bodies, congenital malformations, and ruptured viscera are exposed to our view with an exactness of detail that almost approaches that of a careful dissection of the parts.

In concluding my paper I would emphasize the fact that injuries due to railroad accidents are followed by the same signs and symptoms that characterize other violent traumatisms. It has been estimated that \$25-000,000 are annually paid to injured railroad employes alone, in the United States and England. The greater portion of this money goes to individuals who base their claims more upon the natural antipathy of the average juryman for a corporation, than upon any actual physical injury. The railroad has its side of the question as well as the individual. It certainly can demand most accurate information as to the nature of the affection for which it is paying. There should be no such diagnosis made as "obscure internal injuries," and any claim based upon such a diagnosis should certainly be viewed with suspicion. If an individual has been injured sufficiently to put in a claim for damages, he has been injured severely enough to present symptoms and signs that can be readily recognized by our present methods of diagnosis.

## MIDDLE EAR DISEASE IN ITS RELATIONSHIP TO THE CRANIAL CAVITY.<sup>1</sup>

BY DR. OTTO J. STEIN, of Chicago, Illinois,

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IN THE entire human economy there is not a single cavity which occupies and is of such vital relative importance to its neighboring structures as that of the middle ear. It bears such important relationship to all which lies about, hidden away, as it is, deep down in the firmest and hardest bone of the body, that oftentimes it is the very thread from which suspends the sword of Damocles.

Disease in this region means not only deafness, noises in the head, discharge and dizziness, but, when not properly recognized and taken in hand, results in invasion of the cranial cavity and perhaps death. The very fact that it is a small cavity, not readily visible, and tucked away in so strongly fortified a position that when disease runs riot within its walls it lays the entire adjacent territory open to infection and invasion, are reasons why more study, more careful analysis and sober consideration should be given to any sign or symptom pertaining to the ear. Only a few years ago the profession was taught to disregard a chronic discharge from the ear, with the admonition that to check it would be dangerous; therefore, to let it alone to take care of itself. This idea of the subject took its origin, presumably, from the fact that many cases attended by spontaneous cessation of the discharge became worse and died. As a result of this teaching, the laity came to regard a running ear as a most natural state of affairs which, to interfere with or check by any means, would tend only to complicate matters. Formerly patients had to be satisfied with such advice from their physician because of an undeveloped state of the profession's knowledge, but the day of such ignorance and omission is past. A patient suffering from a suppurative affection of the ear demands a more absolute statement as to his condition, and is entitled to a clear exposition as to the real dangers he is living under. Any other advice stamps his adviser as a man of antiquated ideas, non-progressive and of limited ability. Your patient is a more educated man than he was a few years ago, and if you, as his medical adviser, have not kept pace with the march of progress, he has. His taste for the mysteries of scientific subjects has been whetted by an ambitious secular press, by the teachings of the departments for scientific research opened up by our colleges and universities, and by the natural evolution for more searching thought by an enlightened public.

It has very pertinently been said that "a man with purulent middle ear disease has a charge of dynamite at the base of his brain, which is liable to explode at any time."<sup>1</sup> To confirm the truth of this statement, we have but to look over the various causes of brain infection and abscesses, when we notice that, next to trauma, ear disease is responsible for the greater number of such conditions. Nowadays, with our more per-

<sup>1</sup> Read before the twenty-sixth annual meeting of the Mississippi Valley Medical Association, Asheville, North Carolina, October, 1900.



fect understanding of the pathology of these conditions and the thoroughness to which antisepsis and asepsis may be applied, we find it to the salvation of our patient to enter the cranial cavity with the same fearlessness that the surgeon enters the abdomen in cases of strangulated hernia, appendicitis and gunshot wounds. Our first and all-time duty is to place every suppurating middle ear trouble on the list of serious diseases; and the longer it exists the more serious it becomes. When you have this fact thoroughly imbedded and firmly fixed within your mind, then you are in a position to recognize the symptoms resulting from its entrance into the cranial cavity, and not call it a case of typhoid fever, malarial fever or tuberculosis, as is constantly being done. Cases have again and again been reported where sudden death has resulted and where the autopsy has demonstrated a brain abscess as the cause resulting from a chronic ear disease.

Middle ear disease is a much more common affection than it is ever thought to be, and occurs in many cases where it was never suspected. Especially is this true of infants and children. Ponfick, who performed one hundred autopsies on children, found only nine normal ears. Of all the remaining cases, only in ten had an ear trouble been diagnosed. The mortality rate from intra-cranial complication resulting from ear disease, as found in nine thousand autopsies from all causes by Newton Pitt, at Guy's Hospital, in London, was two-thirds of one per cent., or fifty-seven cases. Gruber found, out of forty thousand autopsies, two hundred and thirty-two cases. As to the age, sex, and side of head where lesion appears, the different observers hold divers opinions. The male, on account of his greater liability to exposure, seems to be more often affected. The same reason may account for the more frequent occurrence in the young. But here must also be considered the undeveloped condition of many of the parts. The greater number of otitic intra-cranial complications result from the chronic variety, although the number following close upon acute cases is by no means small. Some authorities seem to deny the truth of this statement. It is said that Von Bergmann is of the opinion that brain abscess never results from an acute otitis. My perusal of the literature does not seem to bear out this statement, for I find numerous such cases reported. Men like Macewen, Koerner, Schwartze, Toynbee, Meyer, Jansen, Paul Koch, and others have observed like things.

Aside from the abscess condition, we may have a phlebitis, a meningitis and the formation of sinus thrombosis, singly or in combination, following the acute or the chronic form of otitis.

#### POINT OF ENTRANCE OF THE DISEASE INTO THE INTERIOR OF THE CRANIUM.

The particular site of entrance through which the invasion takes place is one of the most important matters connected with this subject. It often becomes the subject of greatest importance in seeking the exact locality of the complication; for from the knowledge of this fact one is saved a round-about way of operating. It not only helps us to more accurately locate our trouble, but facilitates differentiating between an abscess and sinus disease. As, for instance, in case we have a necrosis involving the roof of the tympanum, we might expect as a consequence a phlebitis or thrombosis

of the superior petrosal sinus, because this sinus courses along the roof of the middle ear. Under such circumstances we would not at first expect to find disease in the cerebellum. Where we can possibly exclude mastoid disease, the chances are, although not necessarily, that we have to do with trouble in the temporal region. In discussing the various avenues through which disease may enter the cranial cavity, we have but to look at the anatomical landmarks lying about the middle ear. And here, first of all, we would most naturally look along the lines where the various parts of the temporal bone articulate with one another. The petro-squamous and the squamo-mastoid sutures are the important ones. The former is distinctly seen coursing along the superior aspect of the petrous bone. It is always present during childhood, and oftentimes in the adult. Along its course is situated the petro-squamoal sinus. This sinus bears particular attention on account of the importance it plays in fetal life to the intracranial circulation. At this time, and before the formation of the jugular vein, it acts as the carrier of all the intra-cranial venous blood. Its presence can very often be made out in the adult skull, and in children it is almost always present.

Forming the roof of the middle ear we have a very thin lamina of bone, so thin that it is markedly transparent. It is called the tegmen tympani. This thin plate of bone forms at the same time part of the floor of the middle cerebral fossæ; and in cases that at times occur, where it is deficient, we have a very ready means of entrance of the infection into the brain tissues, for in such cases nothing but the brain membranes and the mucous membrane lining the middle ear separate the two cavities. Necrosis of the roof of the middle ear is probably the most frequent means of the disease entering the skull cavity. Forming the floor of the middle ear is also a thin plate of bone which separates it from the jugular fossa, in which lies the internal jugular vein. The bone is perforated for the passage of the auricular branch of the vagus nerve, and is at times the site of dehiscences, as in J. A. Andrews' case,<sup>2</sup> where the bony floor had two large openings, the result of arrested development. In such a case the jugular vein would lie in direct contact with the mucous membrane of the tympanum.

Part of the anterior wall of the middle ear is formed by the carotid canal, and the thin bone lying between these two cavities is perforated by minute openings for the passage of the tympanic branches of the sympathetic. Posteriorly lies the mastoid antrum and cells and the sigmoid sinus. Between the latter and the middle ear is direct vascular connection, as is also the case between the antrum and cells and the interior of the cranium by the mastoideo-petrosal canal carrying a vein to the superior petrosal sinus.

The facial canal, which courses through the tympanum along its superior posterior wall, is sometimes exposed, either in part or in its entirety.

The inner wall of the middle ear is formed by the outer plate of the petrous bone, containing the two large openings known as the oval and round windows. Hence the tympanum is separated from the labyrinth only by the membranes covering these openings. The labyrinth, as you know, has direct communication with the cranial cavity by way of the internal auditory canal.



The aqueductus vestibuli also connects the interior of the skull with the labyrinth.

From this study of the territory surrounding the middle ear, with its numerous means of communication with the cranial cavity, in one instance by way of a blood channel, in another by way of a lymph or nerve channel, and again via a suture or dehiscence, one readily sees with what ease the brain may be complicated in all suppurative forms of otitis media, and why every such case should be considered alone, cautioning your patient of the great danger he is subjecting himself to by neglecting to have every effort exerted in removing the foci of infection that is lodged somewhere within the various crevices of his middle ear. Diseased and partly necrosed ossicles should be removed, as they interfere with proper drainage. All granulations should be curetted, and polypi snared. Masses of inspissated secretion and cholesteatomatous masses should both carefully be removed.

As to the best method to pursue in this direction we will not discuss here, as that is not strictly within the province of this paper.

In order to more easily comprehend our subject, we will discuss the complications under two main divisions: that of phlebitis and thrombosis, and pus collections.

#### PHLEBITIS AND SINUS THROMBOSIS.

Inflammation or occlusion by clot formation of any one or more of the numerous veins and sinuses within the cranium may follow as a complication of acute or chronic suppuration within the middle ear.

The point of entrance and the avenue followed by the infection have already been expatiated upon.

In case necrosis of the bone involves only the roof of the middle ear, we may have, on account of its location here, a phlebitis or thrombosis of the superior petrosal sinus. The superior petrosal sinus is the venous channel running along the angle formed by the superior and posterior surfaces of the petrous bone, and connects on one end with the cavernous sinus and on the other with the lateral sinus. In its course it traverses the floor of the middle cerebral fossæ or that part forming the roof of the middle ear and antrum. As may be seen from its connection, this sinus may become secondarily involved from extension of a similar disease of the lateral or cavernous sinus. It may also become involved from an infection in the mastoid cells by traveling along the mastoideo-petrosal canal. On account of the very free communication between the lateral sinus and the mastoid antrum and cells by way of the mastoid veins, infection may easily follow this route.

The internal jugular vein may be the site of a phlebitis or thrombosis secondarily to such a condition existing in the lateral sinus. Primarily it may be affected by way of the small foramina in the floor of the middle ear which transmits the auricular branch of the vagus nerve, or the floor of the tympanum may become necrosed and open directly into the jugular bulb containing the jugular vein; or, again, there may be a natural deficiency in the bony floor of the tympanum, and the exposed vein would very likely be open to an infection.

It might be appropriate here to mention that a necrosis may extend in

such a direction that the case may terminate fatally from hemorrhage by a carious perforation of the carotid canal and ulceration into the carotid artery.<sup>3, 4, 5.</sup>

#### SYMPTOMS.

The symptoms of phlebitis and thrombosis of the cerebral vessels vary greatly with the particular sinus or sinuses involved. In common, we have symptoms of pyemia; that is to say, a sudden and high temperature, accompanied by rigors and perspiration, and ultimately metastatic abscesses.

That all these symptoms necessarily exist in every case does not by any means follow. At times they are so insidious in their manifestation that they may escape detection. Some observers<sup>6</sup> think infective sinus thrombosis is more likely to occur where the streptococci are present in the purulent ear secretions than when the staphylococcus alone is there. In the differentiation between the location of the particular sinus, Schwartze<sup>7</sup> says thrombosis and phlebitis of the lateral sinus due to otitis media is diagnosed only when pyemic symptoms are present. Gerhardt mentions a condition of lesser distention of the jugular vein on the side of the obstructed lateral sinus, but Schwartze has found the opposite condition.

Griesinger and many others believe a painful edema over the mastoid as a symptom of lateral sinus thrombosis, due to the extension of the clot through the emissary vein, is diagnostic; but this must not be confounded with a swelling of the mastoid region accompanying disease of the mastoid cells.

If the thrombus in the lateral sinus extends downward to the internal jugular, we have swelling, edema and pain in the neck and face, and often a distinct erysipelatous inflammation of the skin of the cheek and forehead. That a thrombosed condition of this vein may exist without producing the usual symptoms of a hard, cord-like feeling in the neck, pain and edema is a fact, and is seen in a case reported by Eulenstein,<sup>8</sup> where the internal jugular was excised for a thrombus extending almost to the innominate.

In case the cavernous sinus is involved, we have some distinct symptoms; and to favor a more comprehensive understanding of them, we will but briefly make mention of a few anatomical facts. The vessels tributary to this sinus are the (1) superior and inferior ophthalmic veins; (2) sphenoparietal sinus, arising from a meningeal vein; (3) central retinal vein; (4) inferior anterior cerebral vein.

In the case of the superior and inferior ophthalmic veins, these two vessels do not empty their main flow of blood into the cavernous sinus, but into the facial veins; therefore, thrombosis of the cavernous sinus does not necessarily very materially affect the orbital veins.

The central retinal vein communicates with the superior ophthalmic vein; but, according to Henle, it often empties directly into the cavernous sinus. This is of importance, and explains the Gräfes theory of "congestive papilla." But this theory is not always tenable, for in cases of obstruction in the cavernous sinus where the retinal vein empties into the superior ophthalmic vein, the blood may find an outlet through the facial vein, with which it communicates, and hence, in such case, no marked congestion of the papilla would exist.



The cavernous sinus empties into the lateral sinus by way of the superior petrosal sinus, and into the internal jugular vein by way of the inferior petrosal, and into the anterior vertebral plexus by way of the basilar plexus. (Virchow.)

Aside from these main routes, it has other outlets in the form of minute veins communicating with the outside of the skull.

Lying within and passing through the cavernous sinus, we have the following structures: the internal carotid artery with its sympathetic plexus, the third, fourth, sixth and ophthalmic nerves. Pressure on the third nerve would cause a paralysis of the upper eyelid and a divergent squint; also rotation on its vertical axis would be prevented. In the very beginning the pressure symptom would cause a contracted pupil from irritation of the papillary fibers of the oculo-motor nerves. Later dilatation of the pupil would result, due to the paralysis from continual pressure. Irritation of the sixth nerve, which supplies the external rectus muscle of the eyeball, would cause the eye to rotate outward, while a paresis of the same nerve would cause the same to rotate inward. This nerve, as a rule, is affected earlier than the third nerve.

Irritation of the ophthalmic nerve gives rise to a supraorbital and frontal neuralgia. Where the pain is local and confined to the course of the supraorbital and frontal nerves, the source of irritation is, in all likelihood, located in the cavernous sinus. But in case the pain is diffused over the entire half of the head, the pressure most likely comes from a meningitis, which involves the second as well as the third branch of the trigeminal nerve. The pain is accompanied by a hyperæsthesia of the skin of the same region, which, at the same time, is warmer and redder. There are present other symptoms of irritation, like lachrymation and photophobia. Later on, when the pressure causes paresis of this nerve, we have a condition of anæsthesia of the skin of the forehead, eyelids, ocular conjunctiva, and anterior portion of the nose. The skin at the same time becomes pale in color and cool to the touch.

As a result of interference with circulation from the clot formation in the cavernous sinus, we have a damming back of the blood in the veins tributary to the sinus, causing an edema of the eyelids, conjunctiva, forehead and nasal mucous membrane. This condition exists first only on one side, but soon spreads to the opposite, owing to an extension of the clot to its neighboring sinus by way of the transverse and circular sinuses. This is well illustrated in the following case of mine:

H. K., two years, first seen by me January 23, 1900, with an acute left-sided mastoiditis. Temperature  $104^{\circ}$ . Had been complaining of ear since two weeks. There was no discharge. Advised an immediate operation, but parents refused consent. Ten days later, February 2d, I was hurriedly called for and found the little patient in a partially comatose condition. Rectal temperature  $106^{\circ}$ . Had a dry, hot skin. Father said in the interval of my seeing the child scarlet fever had developed, for which it had been treated by the family physician. The scarlatinal rash and, at places, desquamation were still present. Some signs of meningitis were evident, as shown by the contracted pupil and the burrowing of the head in the pillow when disturbed. Great intumescency of the tissues above, anterior and posterior to the ear, with induration in the neck. No ophthalmic

examination was made. Father now implored me to operate. It was a hopeless undertaking, but I consented. At four P. M. of the same day I performed a tympano-mastoid operation. The tissues all about the ear were greatly infiltrated with pus. Coming to the cortex, a large sinus just over and leading directly to the antrum was found. The bone was well chiseled away in all directions. I could not, by careful search, discover any avenue of necrosis leading to the interior of the skull. The bone was soft and permeated with the pus. An ice pack was ordered on the head after the operation and kept there. The next day the morning temperature was 103 degrees and by afternoon down to 101 2-5 degrees with a pulse of 128. No delirium nor convulsions. The third day the temperature went down to 101, but later up to 103 degrees, and fluctuated between these two points. There was some edema of the soft tissues about the left eye, which spread to the side of the head. This was accompanied by a restlessness, but no vomiting. A tremor of the hands became noticeable with slight attacks of convulsions. Marked induration of opposite side of neck with pain over the mastoid on this side was evident. On the fourth day the temperature remained above 102 degrees, not varying more than half a degree, but the pulse was up to 130. The edema on the left side was subsiding, but began to show about the right eye. A second operation was considered, but the condition of the patient forbade it. The fifth day temperature went down to 100 degrees, but the pulse was so rapid and weak that it could not be counted. The edema now involved both eyes so as to close the lids entirely. Enormous induration along the course of the jugulars and extending way down the neck. The mastoid dressing was changed, wound looking good with little pus and no redness, soreness or pain on pressure. The right ear was now discharging and the mastoid very painful and swollen. I made a small exploratory incision on the right side of neck in search of a possible pus cavity, but found none. Sixth day, temperature varied from 104 to 101.4 degrees. Pulse 200. Patient restless, as if in pain. The edema about left eye now cleared up. He rapidly fell into a state of coma, and *exitus lethalis* occurred the afternoon of the sixth day. No post-mortem was allowed.

An almost identical case is one reported by J. W. Sterling.<sup>9</sup> His patient was seventeen months old, having an acute otitis media occurring during an attack of scarlet fever. A mastoid inflammation complicated matters and was operated on and relieved. Three days following an edema of the left upper eyelid developed, increasing until it became impossible to examine the eyeball. One day later the right eyelid began to swell and continued as in the left lid. Two days following this the swelling of the left eyelid began to subside, the right following, and on the fourth day the eyeball could again be seen. Three days after this death occurred. Post-mortem examination revealed a thrombus of left superior petrosal, cavernous and circular sinuses.

Tinnitus and deafness may be symptoms of inferior petrosal sinus disease, on account of the labyrinth vein emptying into the sinus, which, being obstructed, causes a congestion of the inner ear. Where the superior longitudinal sinus is involved in the process, there may be epistaxis, which is profuse and recurring, associated with epileptic symptoms, convulsions and, at times, unconsciousness.



## THE GROWING NECESSITY FOR SANITARIA FOR THE TUBERCULOUS.

### THE INCREASING DISTRUST IN CLIMATE ALONE—INFECTION OF HEALTH RESORTS—THE TUBERCULAR PATIENT A MENACE TO THE PUBLIC—ADVANTAGES OF SANITARIA—COMPARATIVE RESULTS.

BY WILLIAM PORTER, A. M., M. D., of St. Louis, Mo.,

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**I**N PERUSING for a little, the first thought of my subject, I do not wish to deny the potency of climate as a factor in the successful treatment of tuberculosis. From time immemorial it has been the desideratum of the sick, the Mecca to which the baffled physician directs the great caravan of the doomed. While some good may have been done by the indiscriminate recommendation of "change of climate" in tubercular cases, I also believe that the amount of unnecessary suffering and actual harm wrought has been beyond estimate.

First of all, "climate" is a most indefinite term as we use it in the list of our remedial agents. Flint used to send his patients to Illinois and reported cures, but now the victims of tuberculosis acquire the plague in the prairie States, and they in their turn are sent to the mountains of Colorado or to the foot-hills of Oregon. The great tide of misdirected woe reaching the California coast now returns by way of Arizona and Texas to the shores of the Atlantic, while the search for an Eldorado goes on in vain.

In all these regions there are climatic advantages that are valuable and well suited to individual cases, but the disappointment has been because patients have gone with or without advice in quest of something they knew not what, to places they knew nothing of, and the result has been, too often, a bitter failure. I believe that every physician before sending a patient from home and home comforts should thoroughly study, not only the climatic conditions of the location selected, but the needs of the individual case. If unable to come to some definite conclusion as to the fitness of the special location, the patient had better not go.

One great wrong against which the intelligent physicians at our best health resorts are protesting vigorously is that so many patients are sent to them too far advanced to be in any way benefited. It is cruelty, scarcely refined, to send a poor, infected, hopeless case of tuberculosis to some far and possibly out-of-the-way place where the food and comforts and surroundings and sympathy of home are lacking, to inspire hope that any privation or pilgrimage is helpful, to have him endure the heart-aches of nostalgia, and to die among strangers. No exact rule may be given for our guidance in such cases, but it is always safe to let the patient have the benefit of the doubt when doubt there is, and keep him at home.

It must not be forgotten that many of our best and most famous re-

sorts are already more or less infected. Why should this not be? A village or nook in the mountains becomes famous through the report from some specially adapted case. The rush begins, and the *vis a tergo* creates a stampede. It is said that one consumptive may expectorate billions of bacilli daily. What then must be the sanitary condition of a place where these poor unfortunates are huddled together in small rooms, fed at poor tables, mentally comparing notes as to their condition of wretchedness, heart-sick for home and friends, and expectorating everywhere. It is worse than the unclean islands of the lepers.

I do not hesitate to say that the first thought of the physician when he finds a victim of tuberculosis, should *not* be to suggest change of climate. First let him familiarize himself with the conditions of the home climate and those bearing upon the death rate; then, if confirmed in the idea of the necessity for a change, let him carefully select such a place as will best meet the needs of the case. It may be that this study will surprise him. For instance, it will be found that in our own State of Missouri, where the climate is blamed for many things, the death rate from consumption per 1000 of population is 1.32, which is a little less than the average death rate of all the States and Territories, and in some of these the total number of deaths was very small. The fact will also be shown, that the average death rate in Colorado, California, Texas and North Carolina is greater than that of Missouri, or 1.46. It will be answered that the increased death rate of these localities is due to the number of victims who go there from other places. I grant you this, and that eighty-five per cent. is a correct estimate of such cases, yet the conclusion is that enough of such transplanted cases die away from home to make the death rate in these resorts greater than it is at home. In other words, the exodus fails to accomplish its purpose.

I admit that for many years nothing better offered the consumptive, and even now incipient cases, well advised, have to thank the change of climate and the surroundings of the new home life for restoration. Would that all victims could have, at the earliest stage of their disease, the additional aid that suitable climate might bring to what we are now learning the value of, viz.: hygiene, proper food, exercise, specific medicine, and the comforts and safety of home. It is this that the sanitarium endeavors to furnish, and those helps that can be found in almost every home, if the physician in charge will so direct.

*The victim of tuberculosis is a menace to the public.* There is need for ever-increasing light upon this subject. The rich harvests of death reaped throughout the centuries has been largely due to ignorance. Results that have been accredited to inheritance are now known to be due to infection. Since the specific cause and the nature of this cause have been better understood, there is more hope for eventual control. It is not a utopian dream that tuberculosis may be relegated some day to the same list as small-pox, yellow fever, and the plague. There may be outbreaks, but the restraining barriers will ever grow stronger.

After the much that has been written on this proposition, I feel that I need not argue this part of my subject at length. All admit that the great danger of transmission—or protagion—of tuberculosis lies in the sputum. It is true that bacilli are found in the condensed moisture of



expiration and in larger numbers in the feces, and at times in the urine, but these are not the main sources of danger; it is in the mucus and necrotic masses teeming with bacilli, which are viable under certain conditions. We look at the countless seeds from a field of weeds, dried in the sun and carried everywhere by the wind, and wonder why all the vegetable kingdom is not given over to weeds.

The myriads of bacilli from one are multiplied by the hundred, as the victims congregate, and day by day and month by month the aggregation goes on. What wonder that there is so much tubercular infection, and that in twenty of our principal cities there were twenty-five thousand deaths from this cause in one year. It is not in our own land alone that this march of the conqueror is accomplished—the story is the same in England, France, Germany, and wherever records are made. Even in Athens, thirty-three deaths out of two hundred and sixty-one, in last December, were due to tuberculosis. Is it a startling proposition that, at the present rate, ten million of the people living in the United States will die of tuberculosis? Yet such is the estimate.

But we turn to a more hopeful view of this subject. The crusade upon the "great white plague" is scarce begun, and sanitation for the limitation of tuberculosis is yet in its infancy, yet already there is a marked decrease in the death rate. Not only does the practitioner yearly record more cases of recovery, but the aggregate, as shown by the health reports, is convincing. The death rate per 10,000 of population in twenty cities in 1888 was 33.03; in 1897 it was 20.21; decrease in death rate, 38.8 per cent.; actual decrease in number of deaths, 4,547.

This certainly means that something is being done to educate and guard the public, but we are only at the beginning. I am not in favor of classing tuberculosis among the actively contagious diseases, nor in reporting each and every case to the authorities. It would be all-sufficient probably if each case were instructed in the proper care of himself and the danger to others attendant upon his condition. Laws to enforce such instruction should be made and applied.

*The advantages of the sanitarium.* It is a matter for congratulation that during the past few years a new and well-founded hope has been given in the advance made in the treatment of consumptives at home and in sanatoria. I believe that the education and the attention given to special cases, that must necessarily be a great part of hospital work, will do more to guard the public against the danger of infection than all the laws that could be passed.

There are two lines of treatment in tuberculosis. First—always first—the prevention of development of disease in the predisposed. As already hinted, I am not a believer in the inheritance of tuberculosis *per se*, but rather in the tendency to poor assimilation, faulty development and wrong environment. In meeting these evils, the physician should be supreme. He should anticipate disease, and not be found sleeping at his post of duty and observation.

Sanatoria as educational institutions, by teaching and illustrating proper exercise, suitable diet, hygiene in its many applications, and by the encouragement given by careful and conscientious reports, are helpful in many ways and emphatically so in aiding in this development and pro-

phylactic work in the individual. The questions that are suggested by the thought of the prevention of tuberculosis, either in the individual or as regards the public, are many and varied, and the practical solution of some of them is being made. With more definite ideas of etiology and pathology, and by means of methods for earlier diagnosis, there is a decided lessening of the great fear that has so long attached to the term tuberculosis.

Tuberculosis is essentially a curable disease, and we believe that the largest percentage of cures and the best results generally are obtained in well-conducted sanatoria. It is not necessary that patients should go to a far country to avail themselves of this aid. All over the country institutions are building for this purpose, some of them encouraged by the State and others under private auspices, but most of them well appointed and fitted for the specific purpose.

The first sanitarium for the treatment of tuberculosis was founded less than fifty years ago by Brenner, of Gorbersdorf. After many trials it became a success, and now all over Europe, and more recently in America, we find these institutions that each year are adding to the sum total of lives saved. The whole world is acting on the belief that tuberculosis may be stamped out. Never in the history of medicine has there been such a unanimity of purpose, not only on the part of the profession, but of the laity as well. The pendulum is likely to swing to the other extreme, and wise measures and careful thought are needed to prevent foolish and Quixotic action. A disease which in England alone annually claims 60,000 victims is not to be lightly put down. The best institutions are needed and the most advanced ideas and positive action required.

May I mention briefly, and without attempt at completeness, some of the advantages of the sanitarium? *First*, we accomplish much in the removal of a source of danger to others, to a place where that danger can be minimized. The value of this can never be expressed in figures. If it were possible that all consumptive patients could be isolated, how soon would the disease be in abeyance? I do not urge isolation, but I do say that where that can be accomplished with advantage to the individual, that the public is the gainer.

The mental rest and quiet is a great aid. Contrast the life of an invalid at one of our so-called health resorts, where he is left to the tender mercies of "mine host" of the frontier hotel, the skill of the chance physician, the companionship of others as miserable as he, and the heart-sickness of nostalgia, with the comforts to be enjoyed at a well-conditioned "home" or sanitarium, where all sense of responsibility is removed and there is the encouragement of those who know how to give mental as well as physical aid.

Then there is the problem of diet. Assimilation is the great antagonist of tubercular disease. To increase this function is to limit the advance of the specific invasion. Cod-liver oil and the malts, and a hundred other food preparations, have done much in a general way; but it is only when we come to study the individual needs that we can get the best results. I believe that proper feeding, as it can be done in the well-conditioned home or in the sanitarium, and nowhere else so well, is, in the average case, the foundation of all treatment.



Proper and well-graduated exercise is, in many cases, a great help. This is frequently overdone. Exercise is an aid, only so far as it is helpful to the nervous system, and so far as it increases metabolism. It should be regulated by the physician, and in patients with a quick pulse and perturbed nervous condition, it should often be interdicted. Rest, food, and sunshine first, and exercise of body and mind later. In passing, let me say that in cases of faulty development and poor respiratory action, especially at the apex, rightly adapted exercise with a view to increase the functional value of that part of the lung, is of the highest importance.

The open-air treatment is now being advocated. Of its value there can be no doubt, but it must be limited in its application to suitable cases. There is no reason why patients in whom it is indicated cannot live almost altogether in the open air in most of our States. At Mount St. Rose it is our intention to have large sheds built, with movable wind screens, and to have them furnished with chairs and plain cots. Selected cases will live there most of the year, and by a very simple method devised by Dr. Ross, the cots can be warmed in severe weather, and yet the patients have all the advantages of outdoor life.

In cases where there is poor functional activity, I am an advocate of the shower bath or the spinal douche. There is no tonic more direct than this where there is impaired vaso-motor contractility and consequent want of tone in all the organs and in the circulation of the extremities. The frequent flushing of the lower bowel in conjunction with the daily use of the shower bath will often do more to reduce the afternoon pyrexia and increase the comfort of the patient than anything else that I know of.

It is in the sanitarium that special symptoms can be best cared for. Fever that demands rest and quiet, cool sponging and the least harmful antipyretic; hemorrhage that requires prompt and efficient help; night-sweats that are so depressing, mentally and physically; laryngeal complications that can often be controlled in the early stages, and are the bane of the physician's life and the curse of the patient's in the later stages, these and a score of other complications, are all best met in the average case in the well-conducted special hospital or sanitarium. It is attention to detail that tells in so many of these cases. In no other disease is it more necessary to individualize and to change the treatment, not only to suit the particular case, but to meet different indications in the same case. It is "eternal" vigilance that is the price of success.

I will not here detain to speak of the advantages of specific medications that have for their purpose the limitation and destruction of the bacilli. I believe firmly in these methods, and that in the use of creasote and of well-proven serum we have an advantage that physicians of former years did not possess. These are not all, but only a part of the treatment, and call for special care and observation on the part of the physician.

What as to results? Better, I am sure, than we dared to hope for a few years ago. In four of the best known, the Adirondac, the Loomis, the Sharon, and the Winyah, all in this country, sixty-seven per cent. have been benefited and about twenty-five per cent. cured. Not only this, but who can estimate the good resulting from the better knowledge of sanitation and the value of the lives thus prolonged? What stronger argument can be used in appeals made to the State for institutions for the poor

than the recital of the history of lives saved by sanitarium work? When a few citizens are in danger from a savage foe in the Orient, armies are sent to the rescue, and navies are ordered to the antipodes. Newspapers record the progress, and the whole nation stands waiting. Is it too much to ask that the same government should show the same anxiety to release its citizens from a foe that destroys more than ever were slain in battle, and to protect against a more insidious invasion than ever came in the guise of war? We need sanatoria, not only for the rich, but for the poor, for tuberculosis cannot be limited to any great extent till the poor are cared for. I believe that the day is coming when the tubercular patient will be cared for as efficiently as the patient with small-pox or yellow fever, and that day cannot come too soon.

## THE QUESTION OF GENERAL INFECTION IN URINARY DISEASES.

BY DR. POSNER AND DR. J. COHN, of Berlin, Germany.<sup>1</sup>

WHEN micro-organisms attack an intact mucous membrane, they usually cause only a local reaction, without any accompanying general infection. As an example of the habitation of an intact mucous membrane by a pathogenic species, we might mention the residence of the bacillus coli communis in the intestinal canal. Pathogenic species in the intestinal canal cause only general infection after the integrity of the living membrane is destroyed. Thus we can explain the innocuousness of cholera bacilli in some intestines, and the diphtheria bacilli in some nasal passages. Still, there are some cases where pathogenic species can attack intact membranes and cause local disorders, such as the gonococcus causes in the urethra, vagina or conjunctiva, without, however, any general signs of infection.

That part of the urinary apparatus included in the external genitalia is but little inclined to permit the infiltration of bacteria into the general circulation of the body. It is much easier for infection to gain entrance into the circulation through the bladder or kidney pelvis. The same micro-organism which cannot induce general infection while situated in the anterior urethra, can easily do so when it chances to enter the posterior urethra or renal pelvis. It seems, then, that for an infection of the general system through the lower urinary passages, there must be first an extension of the local infection backwards. It is not a direct absorption of the infection into the lymphatic system. In other words, in cases of general gonorrheal infection from a local outbreak in the urinary apparatus, infection cannot take place through the mucous membrane. It must travel backwards first and be absorbed through some such place as the kidney pelvis, where there is a delicate lining membrane. It is not to be wondered at, therefore, that most of the ascending infections of the urinary apparatus, when not complicated by a prostatitis, continue for a

<sup>1</sup> Translated from *Berliner klin. Wochenschrift*, by R. B. H. Gradwohl, M. D.



long time without causing general infections. For example, patients can go on for years with a chronic cystitis without general infection. When the traveling infection reaches some such place as the kidney pelvis, we see in practice its general manifestation by a rise in the temperature when fever occurs in the course of chronic cystitis, we expect to find an implication of the pelvis of the kidney—*i. e.*, pyelitis.

It appears, also, that in some cases of pyelitis we have no complicating general infection. This can partly be explained on the ground that the kidney can protect the organism by means of its secretion which may act as an antagonist to some of these invading micro-organisms. This relative immunity depends, too, on the quality and quantity of the micro-organisms at fault. The question also arises, how good a wall of resistance the kidney offers to these pathogenic species normally, and which micro-organisms can most readily break through this normal wall? Another question in this regard is the probability of making a prognosis in such cases where we can demonstrate the infecting agent's nature.

The permeability of the kidneys for micro-organic life has generally been shown for descending infections. Most of the experiments hitherto performed have been in the direction of attempting to prove that bacteria can gain entrance into the kidney and urine after they have been injected into the general circulation. Urpsokowitsch and Schimmelpilzen<sup>1</sup> performed such experiments with bacteria, the bacillus subtilis and others which ordinarily cause no local kidney infections. They came to the conclusion that under normal conditions, in rabbits, dogs and guinea-pigs, bacteria cannot be eliminated through the kidneys from the blood. Baccardi<sup>2</sup> also stated that with intact glomeruli and capillaries, bacteria cannot pass out of the blood in the kidney secretion. Birch-Hirschfeld's observation<sup>3</sup> is that only a molecular change is necessary for such a passage. Pernice and Scagliosi<sup>4</sup> found that bacteria descend through the kidneys four to six hours after injection, only, however, in cases where there is a disturbance in the general circulation with a degeneration of the renal epithelia. Opposed to the results of these authorities and many others are the experiments of Grawitz,<sup>5</sup> Philipowitz,<sup>6</sup> Finkler and Prior,<sup>7</sup> Schweitzer,<sup>8</sup> Orth,<sup>9</sup> Baumgarten,<sup>10</sup> etc.

These positive results forced these observers to conclude that it is impossible for circulating bacteria to pass through and out of the kidney, unless there is previously a change in the kidney tissue or else a change co-existing, caused by the bacteria themselves or their toxins.

In order to offset these positive results, Biedl and Kraus<sup>11</sup> undertook a series of experiments on dogs and rabbits. They injected cultures of staphylococcus pyogenes aureus, anthrax and colon bacilli, and then studied the urine directly. After from five to fifteen minutes they found staphylococci in the urine: the finding of bacteria so soon after injection led them to reasonably state that no material damage could have been done to the kidney in such a short time. Von Klecky<sup>12</sup> went still further in these experiments: as he had proven that the kidneys are altered by chloroformization or curarization, he undertook his experiments without chloroform or curare. He injected the same bacteria into the blood stream, studied the urine directly, and found that these bacteria really can pass through the kidney into the urine. It seems to us, therefore,

that bacteria can pass out of the blood stream into the urine even where there is no notable alteration in the kidney tissues. It is not to be wondered at, therefore, that the kidney should act as an excretory organ for bacteria in the blood stream as well as for the urinary products. It is quite another question how much of a barrier of resistance the kidney offers to the entrance of bacteria.

In most of the experiments along this line, the observers have been content to note the roles played by different organisms in the production of pyelitis in a local way only (Schmidt and Aschoff). Albarran<sup>13</sup> alone of all these observers conducted experiments in order to ascertain whether or not general infection followed upon the introduction of living bacteria into the kidney. He utilized for these experiments the staphylococcus aureus and the streptococcus and the micro-organism called by the French the bacterium pyogenes, which is the colon bacillus. Five out of the twelve cases where he injected colon bacilli were followed by general infection. Of these five cases, three were cases of peritonitis of the same side as the injected kidney, so that the possibility of an accidental injection must here be borne in mind. In two cases of staphylococcus and two cases of streptococcus only one case resulted in general infection.

In our experiments we have followed the same line of investigation as Albarran. The ureter was tied off and living cultures (broth) of the micro-organisms were thrown into the central stump. As perfect antisepsis as possible was followed in these procedures, with sublimate washing of the wound. We had peritonitis in but three out of the seventeen cases, so that fourteen uncomplicated cases remain. We made the experiment with a non-pathogenic organism, but one which is easily identified—*i. e.*, the micrococcus prodigiosus. On the other hand, we utilized a very virulent organism—*i. e.*, the anthrax bacillus. The main interest must center of course in those experiments employing micro-organisms which play the main part in producing urinary infections—*i. e.*, the colon bacillus, streptococcus, staphylococcus and proteus. We subjoin an account of our experiments.

#### EXPERIMENT I.—PRODIGIOSUS.

14-VI.-'99-12 o'clock noon.—Rabbit chloroformed; right kidney exposed and the ureter tied off two cm. from pelvis of kidney. The ureter was first wiped with a sublimate impregnated sponge of cotton and then a two-day-old prodigiosus culture (in Koch's salt solution) was thrown into the ureter. The kidney and ureter were then released; wound sutured; collodium bandage.

Urinary analysis before experiment showed no albumin. At 4:15 blood taken from the ear vein was sown on gelatin; at 7:30 P. M. it was again bled and sown on potato: both cultures were negative. The animal died the next day, and cultures taken from the operated kidney, healthy kidney, peritoneum, liver, spleen, heart's blood and urine were barren of growth.

#### EXPERIMENT II.—PRODIGIOSUS.

20-VI.-'99.—Rabbit chloroformed; left kidney exposed; one-half Pravoz-syringeful of forty-eight-hour-old culture was then injected into the ureter (ureter being tied off).



At varied intervals, blood from the ear vein was sown on gelatin, but all cultures remained sterile. Two days after inoculation, the rabbit was killed and cultures from its kidney pelvis showed the prodigiousus. Cultures from peritoneum, operated kidney, healthy kidney, heart's blood, liver, spleen, urine were negative.

EXPERIMENT III.—*STAPHYLOCOCCUS PYOGENES ALBUS*.

28-VI.-'99.—Rabbit chloroformed; one-half c. cm. of Koch's salt solution of a living culture of the *staphylococcus pyogenes albus* was injected into the ureter as before.

No cultures from ear vein resulted positively. The animal died twenty-four hours later, showing a peritonitis, from which colonies of the *staphylococcus p. albus* were grown. Cultures from the operated kidney, healthy kidney, spleen, liver were positive. Cultures from the heart's blood and urine were negative.

EXPERIMENT IV.—*STREPTOCOCCUS*.

3-VII.-'99.—Rabbit chloroformed at 12:30 P. M. Laparotomy, exposing the bladder; left ureter tied off near the bladder and 0.3 c. cm. of a forty-eight-hour-old culture of *streptococcus* (bouillon culture) thrown into the ureter. No cultures resulted positively from ear blood. Death occurred in two days. Autopsy: No peritonitis. Cultures from the peritoneum, kidney pelvis of both sides, spleen, liver, vena cava remained sterile.

EXPERIMENT V.—*STAPHYLOCOCCUS PYOGENES AUREUS*.

7-VII.-'99.—Rabbit chloroformed; ureter (right) exposed as in experiment V. and treated with three-fourths Pravoz-syringeful of two-day-old culture of *staphylococcus aureus* (bouillon). No growth from blood cultures from the ear. Autopsy: No peritonitis; peritoneal cultures were sterile. Pure cultures of the *staphylococcus pyogenes aureus* were obtained from the operated kidney, the healthy kidney, liver and spleen. Cultures from the urine were scant.

EXPERIMENT VI.—*STREPTOCOCCUS*.

25-VII.-'99.—Rabbit chloroformed; kidney exposed; ureter was tied off and Koch salt solution of broth culture injected centralwards into kidney pelvis.

Culture from ear vein was negative. Autopsy: No peritonitis. Cultures from the healthy and operated kidney, infarct of the kidney, kidney pelvis (operated), spleen, liver, heart's blood were positive—nearly all being pure cultures. Some rods were found in the kidney, also in the urine.

EXPERIMENT VII.—*STAPHYLOCOCCUS PYOGENES ALBUS*.

31-VII.—Rabbit chloroformed; kidney exposed; ureter treated, as in experiment VI., with *staphylococcus* culture.

Cultures from the ear remained sterile. Autopsy: No peritonitis; peritoneal culture negative. Cultures from the operated kidney, urine, liver were positive; from the spleen and heart's blood, negative.

## EXPERIMENT VIII.—BACTERIUM COLI COMMUNIS.

4-IX.—Rabbit chloroformed; coli culture injected into ureter, as before. Death on the following day: severe peritonitis. Colon bacilli recovered from the peritoneum, both kidneys and heart's blood.

## EXPERIMENT IX.—BACTERIUM COLI COMMUNIS.

20-XI.—Coli injected into chloroformed rabbit, as before. Death on following day; no peritonitis; no positive cultures.

## EXPERIMENT X.—BACTERIUM COLI COMMUNIS.

21-XI.—Same as X. No positive results.

## EXPERIMENT XI.—BACTERIUM COLI COMMUNIS.

29-XI.—Chloroformed rabbit, as before; colon bacilli thrown into kidney pelvis. Death on same day; peritoneal, renal pelvis (operated side) cultures were positive; negative from the healthy kidney, urine, liver, heart's blood.

## EXPERIMENT XII.—BACTERIUM COLI COMMUNIS.

6-XII.—Same as XI. No peritonitis; positive cultures from kidney pelvis only.

## EXPERIMENT XIII.—ANTHRAX.

13-XII.—Rabbit chloroformed, two-day-old culture anthrax thrown into renal pelvis.

14-XII.—Autopsy: Positive cultures from the renal pelvis, operated and healthy kidneys, spleen and heart's blood; cocci from the peritoneum; urine and liver negative.

## EXPERIMENT XIV.—ANTHRAX.

19-XII.—Rabbit inoculated (as before) with culture from spleen of animal XIII.

20-XII.—Ear blood cultures positive.

21-XII.—Autopsy: No peritonitis; positive cultures from renal pelvis, operated kidney and spleen.

## EXPERIMENT XV.—STREPTOCOCCUS.

18-I.-1900.—Streptococcus culture was thrown into ureter of chloroformed rabbit.

19-I.—Autopsy: No peritonitis; positive cultures from both kidneys, urine, liver; negative cultures from peritoneum, spleen, heart's blood.

## EXPERIMENT XVI.—PRODIGIOSUS.

25-I.—Rabbit chloroformed; prodigiosus injected. The renal pelvis on the *operated* side alone gave culture at autopsy.



## EXPERIMENT XVII.—PROTEUS.

Chloroformed rabbit treated with proteus, as before. No cultures obtained at autopsy.

In summing up, we see that the anthrax bacilli gave positive results in both experiments. *Prodigiosus* was negative in all three instances. The colon bacillus led to a general infection in two cases. This result is a contrast to the work of Albarran. This discrepancy can perhaps be explained by the fact that not more than forty-eight hours elapsed in these cases of ours between the time of injection and autopsy, while in Albarran's three positive cases, six, five and eight days elapsed between the injection and autopsy.

The staphylococcus pyogenes aureus and albus and the streptococcus yielded positive results in five cases. In the one case in which the streptococcus was negative, no growth could be obtained at the site of injection, so that we either made a technical error or else utilized a worthless culture.

The question of value of these experiments to human pathology must be considered. It is known that most cases of pyelitis are treated as local disorders which do not materially interfere with the secretion of urine.

Cases of pyelitis can run on for years without causing any interruption in the urinary cycle; that is to say, the kidney tissue proper is not changed materially until some time after the pyelitis has begun. It is to be remarked that in these experiments only a very short time elapsed between the operation and the holding of the autopsy, whereas in Albarran's experiments, so long a time elapsed between these events that no question of the kidney being anything but changed in molecular construction could be raised. The fact also seems manifest that the colon sets up a general infection no more quickly than does any other micro-organism which enters the renal pelvis.

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**Perihepatitis.**—An interesting case of perihepatitis was brought before Erb's clinic at Heidelberg. The patient, a laborer of forty years, gave a history of a sudden attack of pain in the right hypochondriac region just below the free border of the ribs. Pressure at this point caused acute pain. On palpation a noticeable resistance was felt. With the patient standing, a pronounced friction sound could be heard here, but the sound disappeared when the man assumed the recumbent posture. It was a clear case of perihepatitis. The etiology was unknown.

## A CASE OF SUPPURATING EARS OF MORE THAN TWENTY YEARS' DURATION, WITH IMPENDING INSANITY, CURED BY THE REMOVAL OF ADENOIDS.

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**I**T IS not my purpose to review the trite and common knowledge of adenoids. The following case presents the extreme results sometimes but rarely observed, and is worthy of record:

Mrs. E. J., æt. thirty-four, German-American, a large, phlegmatic woman, was referred to me by Dr. Arthur Campbell of this city. I discovered almost complete nasal stoppage, and ears discharging very offensive pus. Watch heard only on contact. Her countenance was weary, and woe-begone, with the characteristic adenoid expression, narrow nose, depressed nasal alæ, and a dull, listless expression. Her voice was as destitute of resonance as would naturally be expected from such complete stoppage. I cannot do better than give her history as recorded in my note-book: "Ears running since longer than she can remember; not less than twenty years. They run so freely that when she moves her head actively, as in washing, the matter trickles down her cheeks, and smells so that it makes her sick. Married four years, and for the last several years her health has depreciated, and she has lost considerable flesh. She is almost incapacitated for work, is dizzy all the time, and feels as though she would go crazy. Has a constant feeling of fullness in her head, and headache, with accompanying pains in the eyes. Cannot sleep at night, has most terrible dreams, nasty dreams that she is ashamed to tell, one after the other, and terrible nightmares. When she awakes in the morning she is dull and stupid and cannot come to herself. A desire for seclusion has taken possession of her, and she has ceased to associate with her neighbors, and feels irritable and inclined to row with them and every one, including her husband. She is sensitive about her voice, which is so indistinct that her friends do not understand her readily. It is over her, as an obsession, that she is going crazy. She tells her husband that all the time, and is convinced that she will never get well, as the several doctors that she has seen at intervals of years have given her no relief."

To make a long story short, I wasted no time in treating her ears, but proceeded, with forceps, to remove the adenoids, which proved to be very tough and blocked the whole post-nasal chamber. A clean enucleation was accomplished in three sittings at intervals of a week. After the first sitting she could breathe better through her nostrils. Her improvement was coincident. By the time I had completed the operation the discharge from the ears was much diminished, and it ceased completely within a week after I began the local treatments, which consisted of blowing out the pus with a Globe nebulizer with acorn tip, attached to an air-tank, and accompanying dry cleansing and Xeroform application. It was not to be expected that after such protracted suppuration, her



hearing would be restored but, it has been much improved and she hears ordinary direct conversation. Her disposition, she affirms, has been completely changed. I quote her words:

"I sleep at night and wake up refreshed, my bad dreams, headache and dizziness have disappeared. I breathe perfectly through my nose, and my low spirits have left me. My neighbors, with whom I now associate, declare that I hear much better; my health and strength are returning and, altogether, I am a happy woman again."

The features that render this case most exceptional are the age of the patient, duration of suppuration, the complete blocking of the eustachian tube and post-nasal chamber by adenoids, its serious effect on mind and body, and the almost complete cure of suppuration, extending over twenty years, by the simple removal of the offending cause.

Grand and Lindell Blvd.

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## MEDICINE IN CHINA.<sup>1</sup>

BY T. C. MINOR, M. D., of Cincinnati, Ohio.

WE KNOW only too well how the Chinese kill—but, how do they cure? What are their ideas of physiology, of therapeutics? No one can inform us better on these points than one of the companions of the French minister to China, M. Pichon. We allude to Dr. Matignon, major of the army, attached to the legation at Pekin. Now let us see what that learned physician says.

Dr. Matignon has recently published a volume, "*Superstition, crime et misère en Chine.*" This is a collection of very interesting and very precise information regarding the morals and beliefs of the Celestials, and it is to be hoped that it will find, sooner or later, some English translator. "Let us first observe," says Dr. Matignon, "that the Chinese are overcharged men. Their valuation, perhaps containing some truth when first emitted, have ceased to have any great value at the present time. Without doubt, on numerous points, from the seventh to the eighteenth century, China was a hundred years behind Europe. But while the European has marched on in the path of progress, the Chinaman was not content to remain inert—or, rather, to draw back. He admired us, and even was guilty of laudable imitation, notwithstanding his ridiculous past."

Dr. Matignon shows us that Chinese medicine is not up to date in contemporary medical science. We have always participated in this opinion. Let us note from the first, that dissection is a thing altogether unknown in China. The human body being considered as the representation of a long series of ancestors, enjoys an intangible and sacred character. All the anatomical knowledge the Chinese doctor has is acquired from "fantastic pictures reproduced with variations for several centuries past—pictures in which the nerves and tendons, veins and arteries are all confounded. The cranium is depicted as a single bone, as well as is the pelvis, etc. The number of ribs varies in Chinese anatomy. Between the forearm and arm we note a kind of patella; the small intestine communicates with the heart; the colon, shown with seven convolutions, ends in the lungs."

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<sup>1</sup> Based on translation from the French.

According to Dr. Matignon, Chinese physiology is wholly original. "The heart is the prince of the body. Along with the pit of the stomach, it is the fountain source from whence is derived the ideas and the pleasures. The soul is seated in the liver, and from this gland all noble and generous sentiments have their origin.

"The gall-bladder is the receptacle from whence courage flows; a man is timid or belligerent according as it is located. The rising of the gall-bladder causes anger."

According to Dr. Matignon, there are strange functions ascribed to all the various organs. The Chinese have not the slightest idea regarding the circulation of the blood; and, as regards this same circulation, they have seventy-four different varieties of pulse.

"Their histological notions," says Dr. Matignon, "may be recapitulated as follows: The body is composed of five elements—fire, water, metal, wood, earth. These are connected with five plants, five tastes, five colors, five metals, five solid viscera. All diseases result from the perturbation of the harmony between these five elements."

Diseases, too, are often frequently attributed to spiritual influences. From this fact arises some of the Chinese therapeutic measures. They sew small squares of yellow or red papers in their clothing, these small papers being covered with cabalistic inscriptions; or yet again, these same charm papers are burned, and the patient swallows the ashes in some tea. Another method of struggling against evil spirits is to beat the mattress coverings with branches of the peach tree, sometimes with the weeping willow; or even better still, use a whip the lash of which represents a serpent. Difficult labors are treated by prayers of which a true Christian Scientist might feel proud, the priest putting the little prayer papers (the Christian Scientists will presently adopt this Chinese idea in order to save time) on the foreheads of the parturient. If, despite all this, the prayers remain unanswered, and the patient's condition grows worse, they use the "Supreme method" (another good idea for the Eddyites) and use a doll show in which figures the goddess of maternity. Bands of various textile stuffs, pieces of ancient money, strips of material on which are painted various animals, are commonly used hygienic protective measures of the "Faith-cure" kind. An empty gourd is an especial protection from small-pox; however, vaccination is well known. In case of epidemics they have processions and fire off shooting-crackers to frighten away the germs of disease, the expense being covered by public subscriptions.

Let us mention a curious process of intrauterine diagnostics.

*Process to Determine the Sex of a Child After its Conception.*—To the number 49 add the month of conception, afterwards subtract the age of the woman; then successively deduct from one to seven. You will have a remainder. If the latter is an even number, it is a girl; if an odd number remains, it will be a boy. For instance, a woman is pregnant at twenty-eight years, she conceived during the sixth moon; she will give birth to a boy. For instance, take 49; add the month of conception, which is 8; total, 57. Subtract the age, 28; remainder, 29. Diminish the deductions (1 for heaven, 2 for earth, 3 for man, 4 for the seasons, 5 for the elements, 6 for musical sounds (!!), 7 for the planets); there re-



mains but 1. *The child can only be a male.* It is very interesting to note some of the characteristics of Chinese legal medicine. It is according to the veniality of the legal physician or the midwife, who, according to the circumstances of the case, must report all violent deaths. The following are some of the rulings laid down by the book of the Si-Yuen (Legal Medicine): "A suicide from anger or vengeance has the teeth tightly closed, eyes slightly opened and looking upward. You will at once recognize this sign. The face will have a disdainful aspect; the chest will appear dilated, which will appear to say: 'Death from a contrary heart.'"

"In case of hanging, take a stick and strike the rope. If it vibrates, it is suicide; if it does not vibrate, it is murder. In case of drowning, if the mouth and nose contain water, mucus and blood, it is the sign of suicide; if not, a sign of crime." The Chinese profess a true horror of surgery because of the religious respect in which they hold the human body. "Acupuncture and the opening of an abscess is the limit of therapeutic surgery," remarks Dr. Matignon.

There is one case where blood is permitted to flow, however—*i. e.*, in the case of castration—for the emperor has need of eunuchs, as well as have the princes of the royal family.

The party to be castrated is placed on a couch, where he is firmly bound. The operator, after twisting and compressing the parts to prevent the least possible flow of blood, cuts with a rapid movement, the knife being curved and very sharp. Sometimes scissors are used or a knife with a narrow blade. A hatchet even is sometimes used. A small peg of wood or pewter in the form of a big-headed nail is placed in the urethra. The wound is washed with pepper-water; afterwards leaves of soft paper soaked in fresh water are applied to the region operated on, and the parts carefully bandaged. The patient, supported by two assistants, is walked up and down the room for two or three hours, after which he is permitted to recline on a bed. For three days after the operation of castration no drinks are allowed. After the amputation a large and triangular-shaped wound usually remains. Healing occurs by granulation, and requires about one hundred days' time at the very least. After being thus emasculated the eunuch can enter the service of the imperial palace. The mortality from this operation is only from three to four per cent. Eunuchs always carefully preserve their amputated genitals in alcohol—they call them "precious stones"—and watch carefully over their really lost treasures, for the reason that a good Chinaman must arrive entire in the other world; that, it is to be feared, gives a feeble compensation for abstinence here below. Strange fact! European and American physicians enjoy the greatest consideration in China, for even as all consuls, engineers and missionaries are disliked by the best class of Chinese, so much the more are all foreign physicians held in high esteem and public favor. The men who can show the Chinamen the immediate benefits are the ones who are best liked.

The true adventurous portion of the medical profession have but to read Dr. Matignon's book and then their next move will be to secure a ticket for China. One doctor in China does more good than a thousand missionaries. All churches know this, and now send medical missionaries by preference.

## MISCELLANY.

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**The case** of the assassin of King Humbert clearly shows how utterly ignorant many legislators are of the true meaning of the movement for reform in the treatment of criminals. Humane writers of all nations have been agitating the abolition of capital punishment, and their views on this subject are by no means based on grounds of a sentimental nature. It has at last been recognized by the world that criminals are not villains to be hated, but degenerates to be pitied; and it is because they consider them as patients rather than as rascals that our modern criminologists are in favor of abolishing capital punishment. That this is not rightly understood by those governments who have substituted life-imprisonment for life-taking is readily shown by the fact that the treatment of the wrong-doer is as cruel and vindictive as ever before. Under the present system, life-imprisonment in Italy or Switzerland is by far more horrible than capital punishment. The assassin of King Humbert also the murderer of Empress Elizabeth are each imprisoned in a very small, narrow cell below the earth, where no ray of the sun can ever reach them. There are no other provisions of light, and no water to wash himself with, and no bed or pillow. The cell is never cleaned out by anybody, and the atmosphere is said to be almost suffocating. The prisoner is fed solely on bread and water, and this is handed to him through a hole in the wall. He never gets a chance to see or to speak to any one, but there is a small opening in the ceiling from which he can be observed. No one is allowed to send him anything, and no matter what may happen to him, he could never be given the least succor. Everything is so arranged as to make it impossible for him to commit suicide, and it is said that in four cases out of five the poor prisoner becomes insane before a few years have passed around. This is the substitute for capital punishment with so-called civilized nations! Hanging or electrolysis are not half as barbaric as this sort of punishment; and it shows, as we said before, how utterly ignorant many law-makers are of the real cause for reform in the treatment of criminals. It is the same way with the whipping-post and the pillory. One writer has said that the main objection to the whipping-post was not so much the humiliation or the suffering of the culprit as the brutalization of the people administering the whipping. This shows the same ignorance of the psychology of crimes; for the real opposition to this kind of punishment is to be found in the principle that criminals are to be looked upon as sick men rather than as villains. But if you whip a man or put him in the pillory or imprison him in as inhuman a way as the assassin of King Humbert, you treat him as much as a rascal as ever before; and it is by no means progress in the movement for reform of the treatment of criminals when you simply change the mode of the punishment.

It looks, of course, strange to defend a man who perpetrates so cowardly and so outrageous a deed as was the assassination of an innocent and harmless woman like the late Empress of Austria, and it would seem as if no punishment could be severe enough for such a crime. But any one who knows the first principles of criminology will have to admit that murderers



are, above all, abnormally brained degenerates of an unfortunately very dangerous sort, and any punishment inflicted upon them should be only intended to prevent the recurrence of such deeds in the future, and not to avenge the perpetration of the past act, for even in law insanity is a good defense for a murderer; and all psychologists know that in reality all criminals are insane. It is, of course, lamentable that this should be the case, but such is the true state of this matter, viewed scientifically; and furthermore, outrageous though it be, it is not any more cruel than the law of nature when a tremendous cyclone sweeps away the guilty and the innocent with equal indifference. If any examples are needed to illustrate this assertion, we only have to call attention to the formidable tornado of St. Louis, in May, 1896, or the recent still more dreadful calamity in Galveston, Texas.

**How unreliable** a thing medical testimony very often is was excellently shown in a case that came up in California about a year ago. A woman was suing a railroad company for damages, she having met with an accident on a train of the defendant company, as a result of which a tumor had formed itself in her stomach, which, according to the testimony of her physicians, could not be removed. The doctors of the railroad company also examined her and were compelled to corroborate the statements of the expert testifiers. Upon this evidence judgment was rendered in her favor to the amount of \$25,000. Two or three months later she gave birth to a little girl; and that was the only tumor she had ever had!

**A curious** case was decided in Ireland not very long ago. A little girl was suing a railroad company for damages, she having been born a cripple as a result of an accident her mother had met with on the train of the company before the birth of the plaintiff. The court decided very wisely that the defendant company was not aware of the plaintiff's presence on the train at the time of the accident!

**The present** Pennsylvania coal-miners' strike has shown us the utter misunderstanding of the people in general of the labor question from a sociological standpoint. It is not our intention to discuss here the particular causes which led to the outbreak of this strike, but some of the absurd ideas which have been expressed in regard to organized labor justify a few remarks on the paramount sociological question of the day. Labor unions are objected to as being an infringement of public liberty, in so far as in a free country like ours every person ought to be at liberty to engage whom-ever he pleases, irrespective of any kind of organization. That is just as ridiculous as the apt illustration given by Prof. Muensterberg, of Harvard University, in his essay on the "Germans and the Americans," published not long very long ago in the *Atlantic Monthly*, in which he says that some people in this country consider it a privilege of liberty to be able to unmolestedly cross the railway tracks at a dangerous moment. This absurd idea springs from a narrow conception of freedom. One might as well say that in a free country no man can compel another not to steal, as such an attempt would be an infringement of the Philistine's idea of liberty.

It is the same way with the popular idea of legal justice being a nar-

row and merely technical thing, and far below ethical justice. The fact is that both are interdependent, and that the law is a safeguard of liberty and not an enemy of it. The anarchistic dream of order without law is an impossibility, and we fail to see how people with the slightest knowledge of psychology in general and of criminology in particular can for one moment entertain the hope of a realization of this dream. People who object to the law on anarchistic grounds show a complete ignorance of human nature, and for that reason they cannot be taken seriously. The law protects, and in so doing it liberates and promotes and strengthens the life of freedom, and without it all civilization would become impossible. The law is a civilizer already, for the reason that it makes right right, and not might right. Just as the invention of gunpowder was a blessing to mankind because it equalized strength, so the law is one of the main pillars of civilization because it fosters justice. So, too, it is with organized labor. If it is an evil, it is an inevitable one. It puts restraints upon employers, true; but also upon employ  s. It exists for the sake of keeping up good wages, reasonable working laws, and decent treatment. Experience has long ago proven incontrovertibly that human nature is so constituted that the average man is very much inclined to impose upon his fellow-man, and of course the capitalist can easily take advantage of the poverty of the less fortunate people and thus bring about that pitiable condition of life in which the poor laborers of Europe are compelled to toil. If the labor unions have faults, try to improve them; but to hold that they should be extinguished is unworthy of any person with any altruistic feelings.

**Kraft-Ebbing and Schrenck-Notzing** have ably shown the sexual perversion of many degenerates, and the astonishing part of this branch of science is the frequency with which we meet with such aberrations among men of genius. In fact, the sexual insanity of many great minds is another illustration in support of Lombroso's and Morel's theory in regard to the physical and mental degeneracy of the man of genius.

To take a few examples: Rousseau was a habitual onanist, and it has been supposed that the story he tells in his "Confessions" of his children, whom he claims to have sent to an orphan asylum, is a mere invention, contrived for the purpose of misleading the world in regard to his sexual impotence.

Leopardi, the famous pessimistic poet, was also addicted to masturbation; and the same thing is alleged of Immanuel Kant, Germany's greatest philosopher. In the case of the latter, everything known about his habits of life tends strongly to confirm this suspicion. There is no love story of any kind connected with his biography. He never married; had a male servant; often entertained friends at his house, but only men, and only called on male acquaintances. The whole story of the more than eighty years of his life can be told without mentioning the name of a woman. This certainly looks suspicious.

It is known for what crime Oscar Wilde was sent to the penitentiary; and the prose writer and dramatist, Sacher-Masod, was suffering from a form of sexual insanity which has since been named after him (Masochism), although Nordau points out with good reason that this designation is unsatisfactory, and suggests the word Passivism in place of it.



On the opposite perversion, called Sadism, a good deal has been written of recent years. Lately a novel has appeared by Octave Mirbeau ("Le Jardin des Supplices"), which deals with this subject, and the book is widely read in France as well as in other countries. Strange that these works always first appear in France! Other nations read them with as much interest as the French, and works like "Camille," "Sappho" or "Zaza" have been as popular in America and Germany as in France. But, somehow or other, the French are always in the lead in this respect. But while some of these books which deal with the immoral life of human nature are often works of scientific or literary merit, Mirbeau's novel is so unmistakably written for the Sadists that one can hardly refrain from suspecting the author of being himself addicted to this detestable perversion.

The question has often been discussed, whether the physical inferiority of woman is the result of civilization, or whether it is an inherent defect of her constitution? We have always held that, if properly trained, woman can be made man's equal so far as physical strength is concerned, and we were glad to see that the lamented Mr. Bellamy, in his "Equality," the sequel to "Looking Backward," has thus pictured the woman of the twentieth century; and we were also glad to note that the first thing he points out as necessary for the purpose of improving the physical condition of the fair sex is a thorough reform of their dress, their training and their general habits of life.

One more word about Bellamy's "Equality." There is in it a sentence so scientifically original and independent that we cannot refrain from quoting it. He says: "In former ages a great number of crimes have resulted from the passions of love and jealousy. They were consequences of the idea derived from immemorial barbarism, that men and women might acquire sexual proprietorship in one another, to be maintained and asserted against the will of the person. Such crimes ceased to be known after the first generation had grown up under the absolute sexual autonomy and independence which followed from economic equality." (He is supposed to be writing in the year 2000.)

This sentence shows a deep insight into the sexual anomaly of our own times, and is a proof of the fact that the famous utopist was not only a great political economist, but also a profound moral philosopher.

**The Chinese for "Unavailable."**—According to the *Religio-Philosophical Journal*, this is the way MSS. are refused in China:

"Illustrious Brother of the Sun and Moon! Look upon thy Slave who rolls at thy feet, who kisses the earth before thee, and demands of thy charity permission to speak and live. We have read thy Manuscript with delight. By the bones of our Ancestors we swear that never have we encountered such a Masterpiece. Should we print it, His Majesty, the Emperor, would order us to take it as a criterion, and never again to print anything which was not equal to it. As that would not be possible before Ten Thousand Years, all trembling we return thy Manuscript, and beg of the Ten Thousand Pardons. See! my hand is at my feet, and I am thy Slave."

**Patriotic preachers** and enthusiastic newspaper editors have a special preference for expatiating on the incomparable enlightenment of our times, and to judge from the assertions of these gentlemen it would seem as if the superstitions and prejudices of the middle ages had completely disappeared from the face of the earth. We are told that the belief in witchcraft and in magic, and in all the other outgrowths of ignorance and bigotry, has vanished forever, conquered by the irrepressible march of progress. Is this true? We think not. The names have changed, but the superstitious beliefs have remained. What is called Christian Science and Spiritualism and Theosophy are nothing but the modern forms of the witchcraft and similar beliefs of the middle ages.

It is not necessary to take these matters seriously in speaking of them in a medical journal, as they are practically nothing but phases of religious insanity, and only as such are they worthy of the attention of the scientific reader. The only difference between the character of the people who held these beliefs in the middle ages and the neurasthenics of our own times is that while among the former there may have been a great many men and women of sound mind and body who were led to accept the teachings of their nervous contemporaries by that naive credulity which is the counterpart of ignorance, the modern pupil of Mrs. Eddy has no such excuse, and his tenets are always the result of his own abnormal brain.

It is therefore absolutely necessary for the authorities to stop the harm which is being constantly done by the Christian Scientists, and it would be interesting to have some statistics showing the number of people that annually dying as victims of Christian Science. The crusade against the followers of Mrs. Eddy has already begun, and in connection with it an old peculiarity of human nature has again been brought out. A number of newspapers have taken up arms against the Christian Scientists, fortune tellers and similar "professions," and their editorials picture in glowing colors the necessity for taking steps against these lamentable follies of the nineteenth century. This is certainly very praiseworthy; but lo, and behold! you turn the page, and on the other side you find the very same paper printing the advertisements of these very same people.

**Is a nervous condition of the body and the mind prerequisite to the enjoyment of music?** It has been claimed that people with a completely sound constitution do not take any pleasure in the most universal of all the arts, and that no composer of music that ever lived has had a normal nervous system. A good deal can be shown in support of this theory. It does not take a Lombroso to see that Beethoven was deranged. Schumann was suffering from congestion of the brain, and Mascagni is so nervous that reports have been spread repeatedly to the effect that he is insane, because it is said that his physicians have advised him on several occasions to take a year's treatment at a sanitarium. Richard Wagner was hypochondriacal and hypersensitive, and his most intimate friends were all neurasthenics, which shows that he felt himself particularly attractive to these people. Haydn is said to have composed some of his best melodies while lying in bed, and in this respect he reminds us of the famous metaphysician, Descartes, who is said to also have developed some of his most brilliant theories in the same way. However, we have no doubt that it is gross exaggeration on the part of the upholders of the music



neurasthenia theory to claim that love for music is a symptom of degeneracy. It cannot even be said that more than an average nervous system is required for the enjoyment of this art, as music is by far the most popular of the arts of modern times; and as the susceptibility for it is characteristic of the whole human race, it naturally follows that a love for it is a perfectly normal condition. But in reply to this it is urged by that school which is headed by Max Nordau, that the whole human race of the present day is degenerated. If that is true, does Max Nordau actually believe that when the neurasthenics of our times have passed away the works of a Beethoven or a Wagner will no longer be admired by the majority of the connoisseurs, and that they will then only be cherished by those degenerates who will then constitute the minority? We can hardly think that so brilliant a writer as Nordau should hold so absurd an opinion. And there is a certain consolation for the lovers of music in the fact that the "nerveless" beings are the most pitiable in the world! It seems as if every man of more than ordinary intelligence has a more highly-strung nervous system than his more robust and more stupid fellow-man, and a poem of Ella Wheeler Wilcox so excellently pictures how pitiable those "nerveless" beings are, that we think it best to quote it in full:

"There are people to pity, wherever we look,  
 The rich as well as the poor,  
 For sorrow stays not in the laborer's cot,  
 She visits both laird and boor.  
 But the people I pity most in life  
 Are the poor little nerveless souls—  
 Half finished at birth and sent into earth  
 Unfit to be fighting for goals.  
 They are third-rate clerks with no chance for a rise,  
 And they get all they earn, no doubt.  
 They are lacking in will and tread the same mill  
 Through all the years in and out;  
 They are wanting in character, force and brain—  
 Mere parts of a great concern,  
 But they've hearts that can ache, and silently break  
 While the wheels of the tread-mill turn.  
 Or they stand on the corner with trifles to sell  
 That nobody stops to buy,  
 And they gaze on the mass of people who pass  
 With a weary and listless eye;  
 They call out their wares in a hopeless tone,  
 Dusters and brushes and strings,  
 And their look seems to say, as you glance that way,  
 'I know you don't want these things.'  
 And the women without either beauty or brain,  
 Or charm, but with hearts of gold,  
 Oh I pity them so as I see them go  
 Down pathways lonely and cold.  
 And I cannot help thinking there must be a realm  
 Where things will be evened a bit,  
 And the play rehearsed here with a new cast will appear,  
 And these souls may yet make a hit!"

## MEDICAL TREATMENT.

**Dr. Kaufmann**, of Frankfurt, recommends hot applications of water for gonorrheal epididymitis. They are given in this way: several strips of gauze are soaked in hot water and laid around the swollen part. Over this comes a piece of oil silk or tissue, and surrounding this is cotton. This is supported by a comfortable suspensory. This suspensory should be so adjusted that practical immobility of the affected parts is insured. The applications of gauze in hot water should be renewed every two hours if possible. The advantages in this method are: cheapness, ability to treat ambulant cases, and quickest possible *restitutio ad integram*.—*Monatshfte f. prac. Dermatologie*.

**Dr. Cohn**, of Berlin, recommends as a prophylactic against syphilis, rubbing the genitals with blue ointment before coitus and washing with a mercurial soap after coitus.—*Dermat. Centralblatt*, May, 1900, No. 8.

**Lemoine** recommends the application of ether in uremia, and also in uremic dyspnea. He gives in severe cases of uremic dyspnea every hour 2 c. cm. of ether subcutaneously, and besides a teaspoonful per os. This is continued until the dyspnea improves and diuresis is fully restored. Ether is also a good diuretic. There is no occasion to fear intoxication by the use of ether, unless too large doses are given. The subcutaneous injection is a painful procedure, and care must be taken in giving the injection to go deep, otherwise phlegmon cutis will ensue.

**Syphilis and Tuberculosis in Pre-Historic Times.**—How far back in man's history can we say he suffered from syphilis and tuberculosis? M. Zambaco, of Constantinople, would have us believe from his remarks before the French Academy of Medicine (*La Semaine Medicale*, July 4th), that we may fix the date as at least B. C. 4500. In support of this view he exhibited a series of photographs of human bones from Upper Egypt which are of that date, and which show various destructive or hypertrophic suppurative osteitis, ivory exostoses, etc., changes due, according to him, to syphilis or tuberculosis. In the subsequent discussion M. Tournier pointed out that the osseous changes were not in themselves sufficient to stamp them as syphilitic, as many other diseases would give rise to a similar condition; and, as a matter of fact, many of the changes in these bones of pre-historic man in Egypt have been shown to be due to chronic rheumatism or rheumatoid arthritis. Possibly, the remains of which M. Zambaco exhibited photographs were obtained from Abydos, where M. Amelincau recently discovered Royal Tombs of the First Dynasty, and of pre-dynastic kings. Professor Flinders Petrie has this season re-excavated these tombs, and his discoveries, which are of great importance, are, many of them, now on view at University College.—*Exchange*.

**Treatment of Tetanus by Curare.**—As employed in the laboratory curare is known to produce profound muscular paralysis, often followed by death



from cessation of respiration unless the latter process is maintained by artificial means. It must be pointed out, however, that these effects are really due to the very large doses which are given, and seeing that the respiratory muscles are amongst the last to be affected, there seems no reason why, with smaller doses, we should not be able to paralyze the muscles of the limbs, whilst leaving respiration unaffected.

It is obvious that if this can be done we have in curare an agent likely to prove of great use in the treatment of tetanus, for there can be little doubt that many cases of that disease die, not from paralysis of the cardiac and respiratory centers, but simply from exhaustion brought about by the paralysis and excessive contraction of the muscles. By the use of curare one might be able to render it impossible for such contraction to take place, and so keep the patient alive until the toxins of the disease had been eliminated.

In the *Festschrift* recently published in New York in honor of the seventieth anniversary of the birth of Dr. Jacobi, it is interesting to find a short paper by Scharlan, in which such a use of curare as that indicated above has actually been attempted, and with favorable results. He reports three cases of tetanus treated by curare, and in each case recovery ensued. He recommends that small doses should only be used, one quarter of a grain, given hypodermically every six or eight hours, being probably sufficient. If the patient is sleepless, chloral may also be given at night. Under this treatment he found that the muscular cramps gradually passed off.

In future trials of the drug we would venture to suggest that curarine should be used instead of crude curare as being a substance of greater constancy of composition and free from those traces of tetanizing alkaloids which ordinary curare contains. The treatment might also be expected to prove useful in cases of severe strychnine poisoning.—*From Physician and Surgeon.*

**The Treatment of Headaches in the Phthysical.**—Owing to the irregular elevations of the body temperature so characteristic of pulmonary tuberculosis, headache is not an infrequent symptom of phthysical patients. For the control of these neuralgias it is especially important that a remedy be selected which exerts no weakening action upon the heart and circulation, since these patients are very susceptible to drugs that have a depressing effect upon the vaso-motor centers. An eligible remedy for these attacks of headache is hemicranin, which combines sedative and analgesic qualities with a stimulating action upon the circulatory apparatus. From the clinical evidence published it appears that hemicranin alleviates the pains by its direct action upon the nervous system, and by its regulating influence upon the circulation. Owing to its eliminating effect it also promotes the excretion of the products of imperfect metabolism and of those toxic substances which are responsible in many instances for the development of neuralgias. Moreover, in phthysical cases this drug produces a gentle reduction of temperature which further contributes to its curative effect. The dose varies from five to ten grains on the average, and although larger doses may be administered owing to the innocuousness of the remedy, these are rarely required.

According to M. Thiemlin and M. Cherey (*Gazette des Hospitaux*), brewers' yeast has proven itself of great value in gastro-intestinal troubles of children. The procedure of this gentleman follows: *first*, a laxative is given; then the bowels are washed out; following which a teaspoonful of yeast, dissolved in one to two ounces of water, is introduced with the high rectal tube. The child is kept quiet to make it retain the injection as long as possible. This is repeated three to four times a day, leaving the laxative off. Brewers' yeast has also been administered with good success in ten to twenty-grain doses per os.

To make a patient retain an enema, instill a few drops of a three per cent. cocaine solution into the anus by means of an ordinary glass dropper. It will anæsthetize the sphincter for a period often lasting thirty minutes.

Dr. S. Marx, at a meeting of the Harvard Medical Society of New York, said that puerperal fever is very rarely due to mixed infection. In ninety-five per cent. of all cases of the disease it is due to the streptococcus. When streptococcus serum was first introduced into medicine, there seemed to be good hope that the fatality of puerperal infection might be reduced by it. In twenty-five cases of pure streptococcus infection, however, treated by Dr. Marx with Marmorek's serum, all the patients died, and he will never use it again. The Credé ointment has seemed to be life-saving in one case. The case was one of sapremia, not due to retained secundines, but to a pseudo-membranous affection of the uterus and vagina, for which every remedy, including streptococcus serum, had been tried without any improvement. Twenty-four hours after the employment of the Credé ointment the local condition was improved. In forty-eight hours the constitutional symptoms had practically all disappeared. In one of the two cases reported by Dr. Grandin, in addition to the operation, the Credé ointment and streptococcus serum were used. Dr. Marx thinks that the use of the Credé ointment was an important element in the recovery. In another case in which certain septic symptoms had continued for eighteen days, operation was tried as a last resort, but the patient did not recover. At the autopsy miliary abscesses were found in the lungs and liver, although they had not been noticed at the time of the operation. In extreme cases laparotomy is undoubtedly justified, provided there are no metabolic abscesses; but it is difficult to determine this.—*Medical News*.

**Relation of Leprosy to Small-pox and Vaccination.**—Plumachey, United States Consul at Maracaibo, Venezuela, states in *Public Health Reports*: "I have been informed by reliable persons from the adjoining Republic of Colombia that persons afflicted with leprosy and attacked by small-pox (*viruela brava*) have been cured from leprosy. It is well known that one-fifth of the population of the State of Santander, in the Republic of Colombia, have the germ of leprosy in a more or less pronounced degree, and that in the same State small-pox is spreading rapidly. The foregoing statement is based upon observation.

"I have examined into the record of our lepers here, and find that none have been vaccinated against small-pox in former days before the disease of leprosy was pronounced in the persons."



"It is also true that most of those now suffering with the leper disease in Colombia have never been vaccinated against small-pox.

"This makes me think that there may be some connection with both diseases, and that vaccination against small-pox may also be a preventive for contagion of leprosy.

"I believe it would be of value for our medical men if this question could be solved by competent authorities. I hardly think that any leper in China and in the Asiatic possessions has ever been vaccinated, as my own personal observation of former years has taught me."

**The present epidemic** of gripe manifests itself frequently with mere throat symptoms. It begins with a fever, often registering a temperature of 104°. The general malaise and weakness is aggravated by pain on deglutition and frequently by an harassing cough. Objective symptoms of the throat consist in a sharply-defined redness of the pharynx and a considerable swelling of the tonsils. The disease can be differentiated from a tonsilitis through the absence of exudation and the high pulse rate. The glands of the neck are frequently swollen and painful, but recede ordinarily without causing any trouble. Some of the cases are followed by suppurative adenitis. At present the disease is still running a mild course, and complications are rare, but indications point to a pandemic with its numerous atypical variations. In the treatment salol or other intestinal antiseptics have proven of value combined with antiseptic throat-washes. The point of infection should be looked for in the mouth and nose, and constant auto-infection be guarded against by proper agents. An application of a strong silver nitrate solution with the swab will frequently relieve the pain and the cough.

**Dr. Starkloff**, of the St. Louis Health Department, has issued a circular, warning the physicians to report all cases of typhoid fever immediately. This is presumably done in order to obtain proof against the Chicago drainage canal. We admire the energy shown by the doctor to remove the source of danger to our city. The drainage of a large city thrown into the water-supply may account for the increase of enteric fever this fall. St. Louis has never had good drinking water. The ugly color, giving the city water the appearance of an emulsion of mud, is nauseous enough without the idea of the additional sewage. People drinking of it may ordinarily not be easy subjects of infection, but the fear-inspiring notions of the bacteriological contents of each drop he consumes is enough to create a predisposition to infection in the hardiest. We hope that not only the physicians of St. Louis but all physicians of the threatened district will unite their efforts to those of the health commissioner to abate the nuisance and to remove the source of danger. S.

**Diabetes Mellitus and Its Treatment by Arsenauro.**—Diabetic glycosuria, the symptom of grave metabolic disturbances, has always been a stumbling-block in the already thorny path of the practitioner. All his efforts to permanently eradicate it from the system in which it has once made its appearance have failed, and have failed dismally. To get an idea of how stubborn glycosuria of diabetics has resisted all efforts, one only

need to look at the list of drugs recommended as curative of diabetes. Lactic acid, ergot, buchu, etc., have had the call, have been heralded for a time, and dropped as inefficient. Opium and its derivatives have held the sway longest, and certainly deserve favorable comment in the diabetic glycosuria of the aged, as well as in the active stages of the disease in general. Lately, clinical experience has demonstrated a drug of highest value in the general management of diabetes. Arsenauro given in physiological doses controls diabetic glycosuria.

Arsenauro manifest its physiological limit by a slight puffiness under the eyelids and gastric disturbance. The dose of arsenauero is graduated from five drops daily upward, and in the reports by Stern, Beck, and Sheridan, as much as one hundred and twenty grains daily have been given. The reports of the clinical experience of these gentlemen in regard to the drug is exceedingly favorable, and should lead to further trial of the remedy in diabetes. Stern claims that in about thirty cases of diabetes a judicious administration of arsenauero caused a disappearance of the glycosuria; while in twelve cases of preglycosuric diabetes, the glycosuria never appeared. Beck, who inclines toward a bacterial origin of diabetes reports a large number cured, and claims the prognosis of diabetes to be more favorable since the administration of arsenauero.

**Apropos of the Chicago drainage problem,** it can be said that it is a mistake to consider the question solved even for Chicago. The drainage canal is even now inadequate for Chicago's demands, and will be more so in the near future. The engineering done on the canal, and the money spent upon it, should have been invested in a more efficient system. A large plant for the manufacture of manure, or the fertilizing of sandfields, as it is done in Berlin, would have proven less contentious and more profitable. At any rate, it seems astonishing that the race should be so far behind in progress as is evidenced by the disposition of its sewage. The dumping of unchanged sewage into open fields near inhabited places, or into rivers out of which the drinking water of the population is taken, resembles savagery too much to be used at the end of our century. Sewage should, in every case, either be treated chemically, biologically, or destroyed by incineration. As it is now, standing upon the higher rung of culture, the human being still fairly resembles those animals which devour their own excreta; to the exception that by means of our civilizing agencies, the laws, we practice a fair exchange.

**Success of Mercury in Gonorrhœa.**—Palbrock, St. Petersburg (*Med. Woch.*), used gray ointment in a case of gonorrhœal arthritis. Patient was attacked with arthritis a year after a tedious case of gonorrhœa, which was finally cured. Following Bottger's example, Polbrock used the mercurial inunction and dismissed the patient cured in five weeks, after having rubbed 144 gm. In another successful case he removed the gonococci from an intercurrent pleurisy. He concludes by advising the use of mercurial inunctions even without a previous history of syphilis, in case a history of chronic or acute gonorrhœa can be secured in the past. Gonorrhœal articular affections are characterized by the rapid involvement of the ligaments and the small amount of exudate. Contraction,



atrophy and ankylosis occur early; these cases usually pass as arthritis deformans or chronic articular rheumatism.

**Cholera Infantum.**—Marfan (*Presse Medicale*) emphasizes that cholera infantum is caused by a toxin developing in the milk already a few hours after leaving the cow. These toxins form more readily in warm than in cold weather, and are the chief factors of cholera infantum. Marfan advises the sterilization of the milk after the Soxhlet system—that is, merely boiling the milk within one or two hours after milking, where it can be done. If this is not possible because the milk has to be delivered over great distances, he advises the sterilization direct at the dairy. Later boiling does not affect the toxin already developed.

The bacterial invasion of the intestinal mucous membrane he considers secondary to the infection. As treatment he removes the child from its milk diet and substitutes pure water with excellent results. He uses approximately the same amount of water in twenty-four hours as that of milk the child had been receiving. Occasionally he administers artificial serum hypodermically. Warm baths with or without mustard are routine. If collapse is imminent, caffeine is used.

**Differentiation Between Measles and Rotheln.**—The eruption of Rotheln resembles that of measles in form and locality. The exanthema is preceded by an erythematous blush, which disappears after a few hours and is replaced by a papular raised eruption, the papular being discrete and arranged in crescents. After efflorescence on the trunk the eruption may disappear in a few hours, leaving faint pigmented areas. There is no distinct desquamation in Rotheln. The mucous membranes are not affected in Rotheln, as in measles, therefore we see no conjunctivitis which characterizes measles, but simply a congestion of the conjunctiva. In children the tonsils are not painful in Rotheln; adults sometimes complain of pain. In Rotheln there is a faint spotted eruption on the soft palate and the mucous membrane of the cheeks. This is not characteristic and is of no diagnostic value. We never see the characteristic red spots with bluish centers (Kopliks) of measles in Rotheln. In Rotheln the temperature is highest at the onset of the disease and usually falls to normal when the eruption disappears.



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In the preface Dr. Beck states: "This book is an effort to encompass in a systematic treatise the important essentials of the publications on this subject and such individual studies and experience as it has fallen to my lot to make. In these studies the Roentgen ray has verified the anatomic findings." This is the most scientific treatise we have seen on this subject, and should be in the library of every surgeon.

**Diabetes Mellitus—Its Detection and Successful Treatment.** We are in receipt of a booklet published under the above title by CHAS. ROOME PARMELE, of New York City. It consists of articles from the pens of authorities on diabetes, and is a valuable addition to the literature of this subject, being in advance of the standard text-books. The booklet contains several colored illustrations apropos the subject-matter. The work done by Mr. Parmele and his associates in evolving an improved therapy for diabetes mellitus has been essentially scientific and ethical, and is deserving of the fullest appreciation of the profession.

**Manual of the Diseases of the Eye.** For Students and General Practitioners. With 243 original illustrations, including twelve colored figures. By CHARLES H. MAY, M. D., Chief of Clinic and Instructor in Ophthalmology, Eye Department, College of Physicians and Surgeons, Medical Department Columbia University, New York. This little manual covers all that is essential in ophthalmologic science, and is destined to become popular with both student and practitioner by reason of its practicability.

# FORMULAE.

## Palatable Effervescing Quinine.

℞ Quinia sulph ..... ʒ j  
 Acidi citrici ..... ʒ iiss  
 Syrupi simplicis,  
 Syr. aurant cort ..... aa ʒ iss  
 Aquæ dest ..... q. s. ad ʒ vj

M. Sig.—Add requisite part to a solution of soda bicarb. and drink while effervescing.

## Hypodermic Treatment of Hernia.

1.—  
 ℞ Zinci sulphatis ..... gr. xx  
 Creosote ..... gtt. xv  
 Hamamelis ..... ʒ iij  
 Glycerini ..... ʒ iij  
 Cocainæ hydrochl. 4 %  
 ..... q. s. ad ʒ j

M. Sig.—Inject five to forty minims.

2.—  
 ℞ Zinci chloridi ..... gr. xx  
 Sodii chloridi ..... ʒ j  
 Cocainæ hydrochl ..... gr. x  
 Glycerini,  
 Aquæ ..... aa q. s. ad ʒ j

M. Sig.—Inject four to forty minims.

If the patient is a male, invaginate the scrotum upon the index finger of the right hand and find the external ring. Have him draw up his knees until his thighs form a right angle with his body, holding the knees closely together. Pass the finger now into the canal. If the sac has not followed the bowel into the peritoneal cavity, press it upward and outward. Locate the outer margin of the inner ring and inject six to ten drops at the necessary depth. Repeat in two days at the opposite ends of the ring, avoiding the epigastric artery and vein. Three days later inject half way down the canal on the side of Poupart's ligament. Always apply the truss before allowing the patient to rise. Further injections may be necessary.

## Gout.

℞ Ext. colchici acet.,  
 Ext. rhei,  
 Ext. aloes soc ..... aa gr. xij  
 Ext. belladonnæ ..... gr. ij

M. ft. pil. No. xv. One at bedtime two times a week.—*Barrod.*

## Acute Cystitis.

℞ Ext. hyoscyami,  
 Ext. cannabis indic ..... aa 0.4  
 Salolis ..... 5.0

M. ft. in chart No. xij. One t. i. d.—  
*Utzman.*

## Morphine and Alcohol Habit.

℞ Ammon. brom ..... gr. v  
 Ext. belladonnæ fl.,  
 Ext. nuc. vom. fl.,  
 Ext. cannabis indi ..... aa m ij  
 Aquæ ..... ad ʒ ij

M. Sig.—A dose four times daily.

## Neurasthenia.

℞ Zinci bromidi,  
 Zinci valerian ..... aa ʒ iiss  
 Zinci oxidi ..... ʒ v  
 Rosæ conserv ..... q. s. ad ʒ ij

M. Sig.—Teaspoonful once or twice daily.

## Epsom Salts made Palatable.

℞ Magnesia sulph ..... ʒ ss  
 Acid sulph. dil ..... m ij  
 Syr. lemonis ..... ʒ ss  
 Aquæ ..... q. s. ad ʒ ij

M. Sig.—At dose.

## Supraorbital Neuralgia.

℞ Ergot ..... 1.  
 Quininæ muriat ..... 2.  
 Ferri sulph ..... 5.  
 Ext. gent ..... q. s.

M. ft. pil. c. s. two times daily.

## Hæmoptysis.

℞ Tr. iodi ..... ʒ j  
 Pulv. camphoræ,  
 Ol. picis ..... aa ʒ iiss  
 Spts. ætheri comp ..... ʒ ss

M. Sig.—Use for inhalation (five to twenty at a time, repeat every hour).

## Delirium Tremens.

℞ Antipyri ..... 4 gm.  
 Potass. brom ..... 6 gm.  
 Syr. chloral ..... 30 gm.  
 Aquæ ..... 125

M. Sig.—ʒ j every hour until hypnotic effect is produced.

## Chronic Coryza.

℞ Sod. bicarb.,  
 Sod. bibor.,  
 Sod. chlorat ..... aa 0.40 gm.  
 Sach. albi ..... 1.00

M. Sig.—Dissolve in tepid water; snuff up from hand or inject into nostril.



## SURGICAL SUGGESTIONS.

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**Urotropin in Surgery.**—In a paper read by Dr. Keyes, he recommends urotropin in large doses in case of surgical interference with uro-genitalia. Keyes always uses urotropin where a urinary chill is expected, and recommends it highly in external urethrotomy cases. He also thinks it almost a specific in pyelitis. He begins with large doses at first, and follows these with smaller doses *ad infinitum*. It is claimed that the drug often causes dysuria, and has an irritating effect upon wounds. These effects can be counteracted by administering the drug in large quantities of water. According to Nicolaier, the daily dose should be about fifteen to twenty-two grains, largely diluted, each dose dissolved in a half pint of water. Administered in this way, it has a salutary effect on cystitis, on the dysuria of enlarged prostate, and aseptisizes the uro-genital tract before operations.

**The Management of the Breast During the Puerperium.**—In cases where the physician has seen the patient before delivery, a regular hygiene of the breasts should be instituted. Daily scrubbing with a hard brush, castile soap, chamois skin and alcohol, and a gentle massage, should be demanded of the patient. Unfortunately, many cases are seen only when labor has set in. In these cases the breasts must get their share of attention as soon as labor is completed. The patient is enjoined to keep her breasts scrupulously clean, to wash them with hot boracic acid solution after each feeding, and to keep aseptic pads of gauze over the nipples. Eight hours after delivery the child is placed to the breast. This is done every four hours the first two days; later, every two hours. When milk secretion is established, hot water compresses should be applied every three or four hours for thirty minutes or more. A comfortably tight bandage must be placed around the breasts to keep the glands from overfilling. If there is a tendency to caking, the breast should be emptied thoroughly every hour by means of the breast-pump or by the hands. This may prove a painful procedure, but should be carried out by all means. In case of cracked or fissured nipples, a flat rubber breast-shield should be used, which must be washed after every nursing. The bandage placed over the breasts must not be too tight, and should be discarded after five or six days, as very frequently an atrophy of the glands follows its inordinate use.

**Mercurol in Urethritis.**—The author states that he has thoroughly tried mercuriol in his clinic, and from his experience has drawn certain conclusions which he presents in this paper. After describing the chemical nature of mercuriol he states that he found the weaker solutions had little effect, and the stronger solutions were at first irritating. He finally concluded that the average strength best borne by the patient is ten grains to the ounce, or approximately two per cent. After having reached this conclusion he had the histories of one hundred cases recorded, in thirty-

three of which an examination for the gonococcus was made, revealing its presence in thirty cases. In the remaining sixty-seven cases a clinical diagnosis was depended upon, since the writer considers the experienced eye competent to recognize the disease. In one extremely interesting case no gonococcus could be found in the urethral discharge, although gonococci were present in that of some venereal ulcers on the glans.

In these cases a two per cent. solution of mercuriol was ordered, which the patients were directed to inject three times a day after micturition; the injection to be held within the urethra for five minutes at each operation. The clinical reports of the cases show that frequently in two days after beginning the use of mercuriol, gonococci could no longer be found in the discharge.

The author discusses at some length the value of the term "practically cured," and sums up his argument by saying that to draw conclusions of value we should consider only cases that have been under treatment for three or more weeks, omitting those making but a few visits. On this basis he eliminates all but sixty-five cases from his report, and tabulates these as follows:

Ten cases were cured in four weeks, or fifteen per cent.; fifteen cases were cured in six weeks, or twenty-three per cent.; twenty cases were practically cured, as there was no discharge, though there were some shreds in the urine, at the end of from four to eight weeks, thirty per cent.

One of the most valuable observations that the writer has made is the fact that *only two cases suffered from complications*, one having developed gonorrheal rheumatism and the other epididymitis. He states that this fact in itself would tend to argue much in favor of the use of mercuriol, for where is there any other solution or mixture which does not show a greater percentage of complications? When we consider that many writers claim that epididymitis occurs in twenty per cent. of all cases of urethritis, the rate of one per cent. reported in this series of cases argues much in favor of mercuriol as a harmless, yet efficient injection.

Another interesting feature is that in only one of the one hundred cases was there any marked posterior urethritis. Therefore, it would seem that *mercuriol quickly destroys the gonococcus, lessens the severity of the inflammation, and tends to prevent the development of complications*. From a comparative study of the different methods of treating gonorrhea the author concludes that treatment with mercuriol is an advance beyond the older methods with balsamics and astringent injections.—GUITERAS in *Lancet* (London).

**Lumbar Puncture.**—A recent discussion before the pediatric section of the New York Academy of Medicine on lumbar puncture followed the reading of a paper by W. P. Northrop on this procedure in meningitis (*Archives of Pediatrics*, August, 1900). The diagnosis of meningitis is comparatively easy where lumbar puncture is employed. In fifty-five cases of lumbar puncture, the peculiar diplococcus of this affection was found in thirty-eight. The number of germs found was much less in the early stage of the affection. The fluid withdrawn from the spinal canal was most turbid early in the disease. The author had employed lumbar



puncture in thirty cases, and had never seen any ill effects from the procedure.

L. A. Connor discussed the technique of lumbar puncture. He said that any one of the three lower lumbar spaces might be chosen. The lower the puncture is made, the richer in sediment. The operation should be made with the patient in the sitting position, unless there is delirium or a comatose condition. It is essential to remember that the greatest degree of flexion of the spine should be maintained. If the child is sitting, it should be bent well forward; the operator should stand on the right side of the patient and bend over the body. General anesthesia is unnecessary in most cases. The skin may be rendered less sensitive by the use of cocaine. The same care should be exercised to avoid sepsis as is used in opening other serous cavities. The landmarks are easily ascertained by counting the spinous processes from the twelfth dorsal, to which is attached the last rib. The structure is easily ascertained. A line across the highest points of the iliac crests passes just above the fourth lumbar spine. An antitoxin needle is best in children.

When the desired space is located, the needle is introduced a little to one side of the median line, its point being directed upward toward the median line. With the patient horizontal the fluid comes out drop by drop, while in the upright position it comes away in streams, sometimes spurting quite a distance. The amount of fluid removed depends largely upon circumstances. If for diagnosis, it is necessary to remove not more than ten or fifteen centimeters; as a therapeutic agent it may be necessary to remove more.

A. Caille said he had performed the operation seventeen times; the only therapeutic result noted was in relation to pressure. He thought spinal puncture was justifiable in some cases as a diagnostic measure, but as a remedy he had no confidence in it.—*Medicine*.

**Dr. Bransford Lewis**, at a recent medical society meeting, referring to the early diagnosis of cases of primary prostatic carcinoma, remembered one feature in a case which he had in the City Hospital in St. Louis. He now had the whole specimen, including the kidneys, bladder and penis. That patient had no symptoms at all previous to ninety days before his death; he said he did not even have frequent urination. Up to one week before his death he was going about his work as usual without complaint. One day before entering the hospital he climbed to the top of the custom-house, and he then had complete retention of urine. One entering the hospital the interne tried to draw off the urine, but failed. Dr. Lewis tried various means to enter the bladder, but could not succeed. A perineal urethrotomy was then made, and then even with strong pressure he failed to enter the bladder with any kind of catheter. He then made a suprapubic cystotomy, and learned why he could not enter the bladder. There was a prostatic cancer which filled the outlet of the pelvis, and was jammed between the anterior and the posterior walls, so that nothing could be gotten through. The retention was relieved, continuous drainage was instituted, but he died soon after. The cancer was a primary one of the prostate, an adeno-carcinoma. So far as the clinical evidences were concerned, it was short-lived, and yet it must necessarily have had a very long duration.

## NEW REMEDIES.

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**Local Treatment of Eczema and Ulcerated Surfaces.**—In one of the local hospitals good results have been obtained from the use of Tyree's pulv. antiseptic powder, ten parts; acid boric, ninety parts, applied to weeping eczematous and other ulcerated surfaces. Several cases of chronic weeping eczema, which had resisted treatment for months, were speedily cured by the above treatment.

**Pepto-Mangan (Gude's).**—Dr. H. P. Loomis, before the New York Academy of Medicine, related a series of experiments to determine the value of pepto-mangan (Gude's) in the treatment of anæmia. It is a well-known fact, he said, that in the hæmoglobin of the red blood-corpuscle manganese is always found. Opinions differ as to its significance. At the present time the majority of observers attribute to it an oxygenating function, some claiming that quantitatively it is more active than iron. It certainly gives off oxygen more readily than iron. Hence it has long been held that its introduction into the body would increase assimilation.

As early as 1838 Kugler recommended the manganese salts in scrofula, for he had noticed in chlorine bleaching establishments that those who handled the manganese salts enjoyed an immunity from diseases of the skin, bones, or glands. For a long time, and by a number of observers, manganese has been recommended in anæmia and chlorosis, as it has been found by analyses of blood in these conditions that the manganese is diminished in some cases proportionately more than the iron. In spite of the high recommendation from various sources of the theoretical indication for manganese in anæmia, it has not been extensively used on account of the difficulty which attended its absorption. The various combinations of iron and manganese which I have employed have yielded far from satisfactory results; almost invariably they have produced digestive disturbances after a short time.

About a year ago my attention was called to a new combination of iron and manganese, which was being extensively used in Germany. Extraordinary results were claimed for the preparation in chlorosis and anæmia by Professor Ruehle, of Bonn, and Dr. Ascher, of Hamburg. I gave the preparation a careful trial, and the results obtained were exceedingly satisfactory. Believing, however, that the only accurate test of improvement in such conditions as anæmia is an increase in the amount of hæmoglobin and the number of red blood-corpuscles, I made a series of examinations in regard to this point. In most of the cases in which the preparation was given the blood was examined before, during, and after its use had been stopped. The Thoma-Zeiss apparatus for counting blood-corpuscles was used. At least three fields of sixteen squares each were counted from each specimen of blood, and the average number of corpuscles in each square obtained. In this way the number of corpuscles in each cubic millimeter of blood was estimated. This is the most accurate method of determining the number of corpuscles in a given quantity of blood with which I am acquainted. The normal number of corpuscles to each cubic millimeter of blood is estimated at 4,200,000.



The amount of hæmoglobin was estimated by Henocque's hæmatoscope, and also by the spectroscope. In normal blood there is about fourteen per cent. or fourteen grains of oxyhæmoglobin in each one hundred grains of blood.

To thoroughly estimate the advantages of the preparation eight persons with marked anæmia were selected, and careful notes of the cases taken while under treatment. No other medicine was given. In some of the cases the results obtained were much better than had previously been obtained with other preparations of iron.

The preparation of iron and manganese referred to is what is known as the "liquor mangano ferri peptonatus Gude's,"—or, as is written on a prescription, *peto-mangan*, "Gude"—a clear, dark-cherry colored neutral fluid, non-astringent and of mild aromatic taste, prepared by Dr. Gude, a chemist of Leipzig. The dose prescribed was a tablespoonful after meals in milk or in sherry wine. It is claimed that the combination of the iron and manganese with a peptone has decided advantages over the albuminate of iron in its permanency and ease of assimilation. Each tablespoonful of the mixture contained three grains of iron and one grain of manganese.

The following are the histories of the cases, with the results obtained:

CASE 1.—D. G., female, aged seventy-eight, entered Bellevue Hospital suffering with pelvic cellulitis, the symptoms of which disappeared at the end of a week. The patient was fairly well nourished, but with an excessively pale, waxy color. Examination of blood showed eight per cent. of hæmoglobin and 3,900,000 corpuscles to a cubic millimeter. After thirty-four days taking the preparation the amount of hæmoglobin had increased to eleven per cent., and the corpuscles to 4,800,000.

CASE 2.—E. W., aged seventeen, had the most profound anæmia after recovering from a severe attack of scarlet fever. Examination of blood showed six and one-half per cent. hæmoglobin, and 2,533,000 corpuscles to a cubic millimeter. After taking the preparation forty days, the amount of hæmoglobin had increased to ten per cent., and the corpuscles to 4,500,000.

CASE 3.—A. W., female, aged twenty-two, had been excessively anæmic for over a year; complained of headaches, ringing in ears, dizziness, neuralgic pains, no organic lesion. Blood showed seven per cent. hæmoglobin and 3,520,000 corpuscles to a cubic millimeter the corpuscles themselves were changed, some being microcytes and poikilocytes. After twenty-three days the treatment was stopped as the hæmoglobin was normal in amount, and the corpuscles had increased to 5,000,000 to each cubic millimeter. The result in this case was the most pronounced of any.

CASE 4.—Charles M., aged twenty-one, subacute pleurisy lasting six weeks, very anæmic; no fever, some loss in flesh. Had taken *syr. ferri iodidi* for a month, with but slight improvement in general appearance. Hæmoglobin eight and one-half per cent.; corpuscles 3,800,000 to each cubic millimeter. At the end of twenty days, when the treatment was stopped, the hæmoglobin had increased one and one-half per cent., and the corpuscles to 4,600,000; the fluid in the chest had disappeared.

CASE 5.—F. B., female, aged twenty-two, was admitted to the hospital suffering from insufficiency of the mitral valve. Presented the pale and anæmic appearance seen in cardiac disease. After the patient had improved so that she was up and about the ward she was put on the *peto-mangan* (Gude). The examination of the blood at that time showed eight and one-half per cent. of hæmoglobin, and 2,600,000 corpuscles to the cubic millimeter. After taking the preparation twenty-five days the hæmoglobin was eleven per cent., and the corpuscles 4,000,000 per cubic millimeter.

CASE 6.—B. M., aged twenty-four, suffering from primary anæmia and menstrual disturbances. No organic lesion. Hæmoglobin ten per cent., corpuscles 3,000,000 per cubic millimeter. After taking the preparation forty-three days the amount of hæmoglobin remained at ten per cent., but the corpuscles had increased 1,200,000 per cubic millimeter.

CASE 7.—C. V., aged fifteen, presented the ordinary appearances of the anæmic girl at the age of puberty. No organic lesion. Hæmoglobin eight per cent., corpuscles 2,800,000. The examination of the blood after taking the *peto-mangan* (Gude) forty days showed that the hæmoglobin was normal in amount, and that there were 4,000,000 corpuscles to each cubic millimeter of blood.

CASE 8.—M. M., female, aged twenty-four; six weeks after ovariectomy; presented a markedly anæmic appearance. Had shown a slight improvement in color after taking Bland's pills for three weeks. These were stopped, and the iron and manganese preparation given. Examination of blood showed eight per cent. hæmoglobin, and 3,200,000 corpuscles per cubic millimeter. After forty-eight days the hæmoglobin had increased two and a half per cent., and the corpuscles 1,300,000.

In most cases the pepto-mangan (Gude) had no constipating effect. Of the eight cases in which accurate notes were kept, all showed a marked improvement both in the increase in the amount of hæmoglobin as well as increase in the number of red blood-corpuscles. The average increase of the hæmoglobin was two and two-tenths per cent., and of the red blood-corpuscles 1,258,000.

**Gastro-Intestinal Catarrh.**—As the subject of catarrhal diseases is one that has become somewhat trite, no attempt will be made in the limited scope of this paper to enter into any lengthy discussion concerning the pathology of these affections. Yet, while there may be much literature of a theoretic nature extant, any statement bearing on the treatment of these troubles that promises practical results cannot be without its interest to the profession.

My purpose, therefore, is to give, as succinctly as may be possible, my method of treating this class of diseases: diseases, the sequence of which is nutritive insufficiency—*i. e.*, tissues starved or nerve degeneration set up a *vena protarum*, *vena malorum*—a class of diseases which is not uncommon to the practice of every physician, and which will continue to elicit the attention of the profession so long as physical excesses are the rule and not the exception. I have said physical excesses—all, for I see little difference between eating to fullness and drinking to elevation; nor, from any present tendency to reform, can I see anything to depress the doctor of to-day from fear that these diseases will be eliminated from his practice.

We believe that the consensus of opinion will bear us out in the statement that the principal etiological factor in the great majority of cases of gastro-intestinal catarrh is excessive alimentation, resulting in nutritive insufficiency. Proliferation is a power of special cells. Nutrient ingested must first be prepared by ferments contained in the juices or secretions of the cells of the digestive organs, and is only made assimilable by the physical and chemical changes effected thereby. Owing, however, to the accumulation of the tough, viscid catarrhal secretions, brought about by prolonged and excessive stimulation, the gastric and intestinal mucosa or submucosa is hypertrophied, and normal cell proliferation cannot be excited. Hence this diseased condition is self-promoting. So important, too, have these derangements of the *primæ viæ* become that the stomach specialist is now an established factor.

We do not wish to be understood as slighting or discarding altogether the bacteriological theory. Contrarywise, we believe that the bacteria, being subsequently produced by fermentation of the food, are often indirect or intermediate sources of irritation, the effect of which upon the stomach is to lower its functional activity and invite inflammatory action. The catarrh by extension reaches the intestine, causing hypertrophy and hardening of the tunics, chiefly of the muscular and submucous tissue, which, like the walls of the stomach, become covered with a stringy, viscid discharge, necessarily interfering with osmosis and absorption.

It will be seen, therefore, that in any rational treatment of this deranged condition, the stomach and intestines *both* must be prepared to per-



form their functions properly. To this end, these organs must be cleared of the tough, viscid coating referred to, in order that other degenerated mucous membrane may be restored. Pepsin, as is well known, acts only in an acid medium, and therefore has no power to disintegrate this viscid coating of the intestinal membrane, being rendered inert in the presence of its alkaline secretions. Lavage is uncertain and not always neatly performed, nor is it always efficient.

There are, however, many modes of treatment recommended for gastrointestinal catarrh, some of which I have tried with varying or indifferent success; but I desire to call attention to one remedy in particular which I have been using recently in the treatment of this condition, with such uniform success that were I deprived of its use I would certainly feel less hopeful of obtaining good results. I refer to caroid.

Unexpected results and phenomena obtained from the testings of caroid powder, uncombined, as a digestive, first drew my attention to its probable power to disintegrate the abnormal and viscid coating, when its subsequent elimination would be comparatively easy. Unlike pepsin, caroid is a digestive ferment unrestricted in its action—*i. e.*, it is efficient in all classes of media—neutral, acid, and alkaline. It is therefore effective in the alkaline solutions of the intestine as well as in the acid stomach. Furthermore, its action is not restricted, but, on the contrary, is often enhanced by the presence of other drugs, especially alkalies and antiseptics, which are so often required as adjuvants in the treatment of catarrhal conditions of the digestive tract when accompanied by flatulence and acid fermentation. To illustrate the potency of this remedy, we report the following cases in which it has been used with exceptionally gratifying results:

CASE 1.—Dr. W. T., æt. forty, came to us for treatment for, as he claimed, “heart disease.” Examination revealed a weak and what is sometimes called “an irritable heart,” which had not been improved by a long-continued use of digitalis and other cardiac remedies. That the heart, however, was not the only, nor even the principal, organ affected, was indicated from the symptoms and history of the case, which pointed unmistakably toward the digestive tract. The greatly distended abdomen, pain in the epigastrium after eating, vomiting, alternating constipation and diarrhoea and regurgitation of food, all were plainly diagnostic of gastrointestinal catarrh.

Believing that the food ingested became only partially dissolved, the undigested residue remaining as a foreign body to serve as a source of fermentation and excite irritation in both gastric and intestinal cavities, it was considered advisable to prescribe a remedy which would not only remove from the membranes the abnormal secretions formed, but which as a digestant would perform the functions of the natural ferments. It was deemed essential also to clean out the intestinal tract with the aid of an effective cholagogue agent. Caroid (grs. iiss) was therefore administered immediately upon rising in the morning, followed in about an hour and a half (shortly after breakfast) by a liberal dose of sodium phosphate. Directly after each meal, during the day, caroid (gr. j to grs. ij) was given.

The above method of treatment was continued for two weeks, at the end of which time the pulse was found to be full and soft, the “heart trouble” had disappeared, the distended abdomen was much reduced, the bowels were more regular, and digestion was much improved. Continued

the caroid for another fortnight in combination with remedies for the re-establishment of the nervous system, which the patient complained of as being "much out of tune." He is now, at the end of a month, in good health.

CASE 2.—Miss R., æt. twenty-five, of frail physique, had been in a state of decline for nearly three years. Her case had been diagnosed as one of "incipient pulmonary tuberculosis." The following symptoms were prominent: Obstinate indigestion, fermentation, flatulence, bloating, constipation, frequent vomiting of mucus, pronounced nervous disturbances, and general debility; her tongue was flabby and heavily coated; mucosæ pale, complexion pasty or doughy. Ordered two caroid tablets (with charcoal) early in the morning, two hours before partaking of food; one heaping teaspoonful of sodium phosphate in hot water about an hour later; one caroid tablet during or immediately after each meal; remedies directed toward the restoration of nerve tissue; plain, solid food recommended—*e. g.*, broiled beefsteak, broiled or boiled fresh fish, brown bread, avoiding soups, starchy foods, pastries, etc. Rest in open air was encouraged when the temperature was not too low.

Digestion in this case promptly improved, the stomach and intestines were cleared of mucus, and the various "nervous troubles" gradually disappeared. The patient soon forgot to note the palpitation and other "heart troubles," and she is to-day in the enjoyment of as good health as at any previous time of her life.

These are not isolated cases, but, on the contrary, are fair types of many others treated in the same manner. In the opinion of the writer there are few, if any, diseases of the digestive organs, acute or chronic, in which caroid is not a *desideratum*. It acts equally well in acid, alkaline and neutral media; and, besides, I have found it a most efficient agent in restoring the natural functions of the stomach to normal activity.

Lafayette, Indiana.

J. P. KOONSE, M. D.

**Antiseptic Sphenoids.**—The refinements of pharmacy have been largely developed by proprietary manufacturers, and in no instances have physicians been more favored by the manufacturing pharmacist than in the evolution of the treatment of vaginal and rectal local conditions by means of soluble tablets, suppositories, medicated wafers, etc., all of them combining drugs of recognized value, and, by the nature and form of the combination, accomplishing the results attempted by means of douches and irrigations before the advent of this more convenient manner of local medical treatment. Of the various formulæ adapted to the above conditions we wish at this time to mention that one offered to the profession under the name of antiseptic sphenoids. The form in which it is presented makes it superior to any vaginal or rectal suppository made by retail pharmacists on a physician's prescription; and, while the use of fixed formulæ might be considered the essence of empirical treatment, yet in many instances it has its advantages, and in this class of cases but few disadvantages.

Antiseptic sphenoids are composed of boric acid, acetanilid, hydrastis, opium, betanaphthol and sulphate of zinc, combined in proportions as advocated by recognized authorities, and manufactured in such a way as to disintegrate almost immediately when placed in contact with the mucous surface. When desirable, the sphenoid may be covered with vaseline with-



out impairing its easy disintegrating properties. The formula has, no doubt, been used by many of our readers, and the form in which it is presented by the manufacturer will appeal to them not only on account of its convenience, but because of its superior solubility.

The manufacturers of this formulæ placed a quantity in one of the large city institutions, and the following cases were given to us by the physician in charge:

CASE 1.—Catherine K., age forty; diagnosis, carcinoma of vaginal vault following hysterectomy per vagina for carcinoma of the uterus. The operation left an imperfectly healing nuclear mass where the cervix formerly was located, which bled easily and copiously on the least manipulation. These hemorrhages proving of frequent occurrence were a source of great danger to the patient, and she was gradually being exsanguinated.

The usual remedies were all tried: douches plain, at a temperature of 120° to 125°; tannic acid; nitrate of silver, and tampons; but without success from any of them on account of the irritation of the tissues exciting bleeding. A box of antiseptic sphenoids being at hand, they were used in the following manner, not with any idea of giving any permanent result, but as a last resort in the hope of alleviating some of the symptoms:

A small douche of bichloride, 1-4000, was administered hot, in order to clean out the canal, and two sphenoids were inserted high up, followed by a small piece of gauze, patient meantime being maintained in Trendelenberg position for thirty minutes, and then ordered to remain on her back.

This was repeated at every hemorrhage, and in three days the flow materially lessened and continued to diminish both as to quantity and frequency. Present condition: Patient is given two sphenoids morning and evening, and, with the usual tonic treatment, is improving nicely—much beyond expectations.

CASE 2.—Emma L. Carcinoma of uterus, very much as in Case 1, only the patient suffered from an aggravation of all the symptoms in the case mentioned. Secretions from the diseased organ were so great that tampons were absolutely necessary in order to keep patient clean, and as many as three tampons daily were placed with the hope of lessening the secretion and pain, but without satisfactory results.

In view of the experience in Case 1, the antiseptic sphenoids were tried with this patient, and the effect on pain was almost immediate, it yielding to their use very quickly, with a lessening of the secretion after several days. Present condition: Patient is still in bad condition, yet on account of constant use of sphenoids she is much improved as regards the minor symptoms.

CASE 3.—Ulceration of cervix with pronounced discharge from the uterus. Patient complained of constant pain, and was relieved only temporarily by anodynes. The discharge was characteristically offensive.

Practically the same treatment was used in this case as in the preceding, with results more immediately beneficial, the pain being greatly modified and the discharge losing its offensive character within the first week. This patient is still under treatment and continuing to improve.

**Xerosis Corneæ.**—All of the severe cases of cholera infantum which present themselves for treatment at Cassel's Klinik in Berlin show beautiful pictures of the disease. A prominent feature of these cases is the marked xerosis corneæ or extreme dryness of the corneal sac, due to the great loss of fluid from the body. It co-exists with the anuria, which is explicable on the same grounds. In addition to this xerosis corneæ, we see frequently in these cases subconjunctival hemorrhages. As we know, in cholera infantum, the most frequent complication to be guarded against is the occurrence of infections of the corneæ and conjunctiva because of the absence of the normal lachrymal fluid. Ulcus corneæ is to be looked for in protracted cases of this kind.

But scant mention is made of xerosis corneæ in cholera infantum by most authors. The writer's attention was drawn to it by Dr. Cassel, in his service with this careful clinician in Berlin.

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## EDITORIAL DEPARTMENT.

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## CONSANGUINEOUS MARRIAGES.

From time immemorial lay and medical minds alike have been occupied with the theme of consanguinity in relation to marriage. Just as we find it true of all things, our predecessors—and even some of our colleagues to this very day—have been racked by the influence of centuries of superstition, of mythical romance handed down from one generation to the other. Small wonder indeed is it, then, that so many of our medical brethren have rashly expressed prejudiced opinions in this regard, with the inevitable result of creating wrong impressions on those who listen to them “as one possessed.” Here of late some interesting reports have been made along the line of the results of marriage between consanguineous people. By close study and painstaking collation of numerous writings on the subject, it has been rather definitely decided that the harmful results of consanguineous marriages are rather fanciful, and have existed mainly in the imaginations of those most respectable “old ladies” whom we see both among the laity and among the medical fraternity. Consanguineous marriages, as a matter of fact, have been consummated through centuries and centuries, and with scarce noticeable bad results so far as the health of the offspring is concerned. A healthy man marrying a healthy woman related to him by blood ties, will most assuredly have healthy children. On the other hand, it is also true that if a constitutional disease exists in a family, such as tuberculosis, malignant disease, etc., that marriage between blood relations with this disease will yield progeny who will show more accentuated manifestations of that disease.



Therefore, consanguineous marriages between such people are to be interdicted. Aside from that, they are free from bad results, from the standpoint of yielding up diseased or malformed progeny. Instances of an authentic nature in the past, and daily instances at present, support this statement.

### WASHING OUT THE STOMACH IN YOUNG CHILDREN.

The practice of introducing the common syphon rubber stomach tube has become quite prevalent in the treatment of adults afflicted with various forms of ventricular disorders. It is of the use of this apparatus in pediatrics that we now wish to speak. Ebstein first used it as a remedial agent in children, and laid down his dictum that it should be used in children with any form of stomach disorders. While Ebstein, perhaps, had most wonderful success with this method of treating gastric disease in children, still we must recognize the practical fact that it is next to impossible to convince our lay brethren of the utility of this method in such cases. In other orders in private practice a stubborn resistance is met to this treatment. Although based on foolish fear of bad consequences to follow, this prejudice must be respected by us. The question then resolves itself into this: when is it absolutely necessary to wash out the stomach in affections of that organ? This question can be answered in this wise: Wash out the stomach (1) when children nourished on cow's milk vomit their food, when the contents smell of butyric acid; (2) in acute cases where there is *diarrhea ablactalorum* caused by the change in infant feeding from breast milk to cow's milk; (3) in acute cases of poisoning with mineral poisons, etc.; (4) in chronic cases of habitual vomiting and atrophica ventriculi. We might go further and speak of the nourishment of premature and cyanotic children through the stomach tube. From this enumeration we see that the utility of the stomach tube in pediatric work has been well demonstrated. The procedure consists in passing an ordinary Nelaton catheter into the stomach and connecting it with a glass funnel, thereby working a syphonage. A practical point in extracting the tube is that the rubber should be tightly squeezed, so that the last particles of food on the ventricular end of the tube are prevented from falling into the larynx and setting up an aspiration pneumonia.

### THE ETIOLOGY OF LUPUS ERYTHEMATOSIS.

The relation existing between lupus erythematosis and tuberculosis has been one of the mooted points among dermatologists for some little time. Since the advent of the tubercle bacillus and tuberculin, the question has been raised as to the likelihood of the existence of a relation between lupus erythematosis and tuberculosis. Hebra first said that lupus erythematosis began as a form of seborrhea of severe type. The French and English dermatologists have been positive in their statements as to the etiology of this disease, saying that it was practically a form of dermal tuberculosis. Their opinion on this score is mainly due to the frequent co-existence of this disease and tuberculosis of other parts; also to the fact that these patients, as a rule, respond positively to the tuberculin

test for tuberculosis. On the other hand, the German dermatologists have always said with one accord that the disease was not of a tuberculous nature. That the Germans are coming around to our way of thinking is becoming apparent now, inasmuch as we read of cases reported by them where the tuberculin test is positive. The latest convert of this conception of lupus erythematosus etiology is Huegel. He reports a case in *Die medicinische Woche.*, No. 39, where the tuberculin test responded splendidly. The case was lupus erythematosus in a young girl of sixteen years.

Much of the opposition made by the Germans against the acceptance of this proposition is due to the failure to find the tubercle bacillus in the skin lesions. The best explanation for the failure of their presence there is that the disease lupus erythematosus is not set up by the tubercle bacillus itself gaining access to the skin, but is due to irritation to that skin caused by the absorption of the toxins of the tubercle bacillus from some other part and their peripheral dissemination into the skin. The disease certainly is frequently associated with tuberculosis in general, and most things point to the inroads of the tubercle bacillus as the causative factor.

#### SPRAYING FLUIDS INTO THE NOSE IN CHILDREN.

Attention should be directed to the nose in diseases of children affecting that organ, such as diphtheritic inflammatory conditions in the nose, syphilitic erosions in the nose, the coryza of measles, etc. That attention should consist *severely* in mild measures of cleansing. Under no conditions should fluids be injected or sprayed into the nose in children. It is a fact that the posterior rhino-pharyngeal opening is on a direct line with the inner opening of the eustachian tube, and it is the easiest thing in the world to force bacteria and infectious material from the posterior nasal cavity into the eustachian tube, whence infections can travel with expedition into the middle ear, and there set up inflammation and suppuration, which will likely prove to be the bane of existence of both the victim and the practitioner in charge.

What shall we do under conditions demanding cleansing of the nose? The best advice is to let most cases alone. For those cases which require cleansing on account of fotor, simply pour a dessertspoonful of a one per cent. solution of sodium chloride or a borax solution of that strength into the anterior nares. This is as good a means of securing antiseptic cleansing as is demanded, and is practically devoid of the dangerous features which go with the use of a nasal syringe or spray.

#### A PECULIAR FORM OF APOPLEXY.

The writer had occasion to see a very unique case of cerebral hemorrhage which came to autopsy in the Pathologic-Anatomic Institute of the Maobit Krankenhaus, Berlin. The history of the case was this: The patient, a young man of twenty-three years, received a severe blow on the top of the head. This was on July 23, 1900. He was not rendered unconscious. He noticed nothing further except headaches of an intermittent character. On August 20th he lapsed into unconsciousness, and after remaining in a comatose state for a day or two he died. Autopsy showed a meningeal hemorrhage of recent date; also minute hemorrhage



into the centrum ovale, which was only detected by repeating the small incisions beyond the usual "post-mortem" technique. The skull-cap showed nothing except a chipping away of a portion of the outer table; no depression.

The question which arises is: How can we explain this hemorrhage which occurred a month after the receipt of the traumatism? Bollinger and Gussenhauer and others have described a form of "late apoplexy" which might cover the case in question. They assume that at the time of the receipt of the traumatism, the cerebral vessels are affected in such a way that necro-biotic changes are begun, so that after a period of time the vessel-wall becomes broken down, blood escapes, and we have a "fresh, late apoplexy." It serves nicely to explain the case in hand.

However, we certainly cannot agree with Bollinger in his explanation of some cases which he has reported. For instance, he reports a case of a man in Bavaria who received an injury to the head on entering a carriage. The man was not much affected but went on about his business. Three hours afterward he sank into a coma, and *exitus lethalis* quickly followed; a cerebral hemorrhage was found at autopsy. It is inconceivable to us how a necrotic state could take place within three hours. It is almost beyond comprehension.

### GONORRHEAL MALADIES OF THE NERVOUS SYSTEM.

To the general mind the complications of gonorrhea which are most to be feared are gonorrheal arthritis and endocarditis. We may also classify the neurasthenia, which is often seen in subjects with gonorrhea as a complication of the disease. It is but seldom that we hear reports of other complications. The report of Eulenberg, of Berlin, before *Versammlung deutscher Naturforscher und Aerzte* at Aachen, on "Gonorrheal Nervous Diseases," is, therefore, quite interesting inasmuch as Eulenberg has had occasion to see quite a number of such cases. He classifies the nervous complications of gonorrhea as follows: *First*, neuralgia; *second*, muscle atrophy and paralysis; *third*, neuritis and myelitis.

In his own private practice, within the last ten years, Eulenberg has seen fourteen cases of these varieties: nine cases of neuralgia, four cases of paralysis and atrophy, and one case of myelitis. Of the nine neuralgias, eight affected the nervous ischiadicus. These cases occurred two or three months after infection.

These figures throw a new light on practice. But few of us realize what may not follow the entrance of the gonococcus into the male or female urethra. We must learn to look on gonorrhea as a most formidable foe. The fact that such serious complications as paralysis and myelitis may be set up by the gonococcus or its toxin, more than convinces us of its malignancy. Figures such as these simply prove what theory might surmise; they are but another reminder to the profession at large that gonorrhea should always be looked on as a serious disease. Furthermore, that our patients should be handled with our every energy bent on curing them.

### THE DOUBLE-KNIFE IN HISTO-PATHOLOGY.

The school of Virchow, led by Virchow himself of course, has developed a means of rapid diagnosis of pathologic conditions which appeals

to us as being the most practical instrument that has thus far been devised by pathologic diagnosticians. The writer has seen it used and has used it himself, and can thus speak with reasonable authority. The "Doppelt-Messer," or double-knife, is an instrument with a handle of wood to which are attached two blades with a cutting edge like an ordinary scalpel. The blades are capable of being brought into close contact with each other and held there by a screw arrangement. By this means the instrument at first sight appears to have but a single blade, so close do the two knives approach each other. It is designed for the cutting of sections for microscopic study from fresh organs. The instrument is adjusted, dipped into a glass of water and then brought down on the surface of the organ to be examined, at right angles to that surface. A very thin section can be made and can be studied. By such section-cutting the pathologist can verify conclusively his macroscopic pathologic diagnosis at the autopsy table. The writer has made such sections in connection with Prof. Langenhaus, of Berlin, after some practice, easily recognizing such changes as nephritides, hepatitis, carcinoma, calcareous degeneration of cerebral tissue, fatty metamorphoses of various kinds, etc.

Aside from its use in the dead-house, it occurs to us that it might be well for surgeons to use this double-knife in connection with their operations where there is a doubt as to the pathology of the conditions found. A section could be quickly made and the surgeon could easily recognize the disease condition with which he was dealing. It possesses decided advantages over the freezing microtome, and it is to be hoped that it will develop into a useful instrument in the hands of our American pathologists.

### THE BACTERIOLOGY OF WHOOPING-COUGH.

The researches of Czaplewski (*Centralb. fuer Bacteriologie*, xxii, xxiv, xxvi) on the bacterial cause of whooping-cough have been confirmed by several investigators of late. We know that Czaplewski and Hensel described an organism in the sputum of cases of whooping-cough, which bacterium was considered by them to be the cause of that disease. The organism in question is a short bacillus whose main distinguishing feature is its peculiar polar staining. If we take the sputum from a case of whooping-cough, spread it evenly on a glass slide and then stain it with a weak carbol-fuchsin solution, we see a characteristic picture; we see in the field numerous short rods with stained ends, but with an unstained center. Vincenzi, Spengler, and others have also worked along this line.

The most confirmatory evidence of the probable specificity of the bacillus of Czaplewski and Hensel in whooping-cough is the admirable work of Arnheim, which recently appeared in the *Berliner klinische Wochenschrift*, August 6, 1900. This author positively declares in favor of the specificity of this organism. He found it in the sputum of several hundred cases of pertussis in the Pediatric Division of the Imperial Hospital Charité in Berlin; also demonstrated it in two cases which came to autopsy. The organism was grown on blood-serum direct from sputum inoculations. Arnheim succeeded in demonstrating the bacillus in a stained section of the lung in one of the fatal cases. His work is assuredly the most confirmatory of any which has been published since the original ar-



ticles appeared. To all intents and purposes, the Czaplewski-Hensel bacillus is the "mischief-maker" in whooping-cough.

### PROPHYLAXIS AGAINST VENEREAL DISEASES.

The International Prophylaxis Congress last year established a permanent committee for sanitary prophylaxis of venereal diseases and the propagation of morality. The Belgian minister of state, Le Jeune, is president; Dr. Beco, vice-president; Dr. Dubois Havenett, secretary. The aim of the committee is to found an international society for study of hygienic and moral questions which can serve in the prophylaxis of venereal diseases. The constitution and by-laws have already been formulated, and the committee is appointing national and state subcommittees. Physicians and all other persons who by their writings, occupation or knowledge are qualified for efficient co-operation are invited to become members of the society. Annual dues are \$5.00. An official organ is to be published three times a year. The secretary, 19 rue du government Provisoire, Brussels, Belgium, is glad to answer and receive suggestions at any time.

The above is a welcome item, and should ring pleasant notes in the ear of all altruistic physicians. And how about those who themselves have been sufferers from too lax sanitary provisions? It is peculiar that a nation as far advanced in culture and civilization and as is the United States should so absolutely ignore the vital question of the prevention of venereal diseases. Some years ago, when certain laws of licensing and inspecting of brothels were inaugurated, a howl and a brawl went up to the ears of the almighty preventer and dispenser of diseases about licensing vice.

The social evil is an unavoidable appendage to human society that cannot be killed by silence. And the sooner we learn to submit ourselves to the dire necessity of acknowledging its necessitudinarian existence, and treat it in an open, rational manner, the better off will the race be. One important step must be taken, and that is of licensing prostitutes and of submitting them to frequent medical examination. Of course, the licensing of the prostitute will only protect the lower classes, as the socially higher standing rich young man will still be able to contract venereal diseases in clandestine relation with those who are most opposed to legislation in favor of supervision. But the latter are better able to care for themselves than are the poorer classes; and it is as much our duty to care for their health in this respect as to provide them with cheap soups and thrown-off clothes and other pauperizing agencies.

## ORIGINAL ARTICLES.

### FURTHER OBSERVATION ON THE CLINICAL APPLICATION OF THE SUPRARENAL CAPSULE.<sup>1</sup>

By W. H. BATES, M. D., of New York City.

THE aqueous extract of the suprarenal capsule is a true astringent, constricting the blood vessels, thus preventing exudation and bringing about the contraction of inflamed tissues. Although we describe the extract as an astringent, its action is unlike that of the so-called astringents of the pharmacopœia—nitrate of silver, tannic acid, iron salts—all of which have some escharotic action.

The suprarenal extract constricts the blood vessels, but without any destruction of tissues, and it may be used in any quantity for long periods of time without injury. The great advantage of the extract is that it does not act like a foreign substance, a drug or a poison, but its action is similar to the vaso-constriction which takes place in the various tissues in health. Because the suprarenal extract is an internal secretion of the body (Dreyer), may explain why its continued use generates no so-called habit or immunity, and why it has no objectionable after-effects.

PREPARATIONS.—The dried and powdered suprarenal capsule of the sheep can be obtained. It keeps indefinitely. An efficient solution is prepared by mixing one part of the powder with ten parts of water, let it stand a few minutes and filter. The filtrate is ready for use. It should be used immediately as it soon spoils, or it may be sterilized and preserved by heating it to 212° F. for one hour. A sterile solution is prepared from the fresh glands by Armour & Company, which I find very convenient. It is very efficient. I know of no substance which will preserve the suprarenal extract in solution without impairing its astringent property in the eye. Solutions containing boric acid have caused infection, although no odor was present. Camphor may for a time disguise the odor of a putrid solution.

EYE DISEASES.—The suprarenal extract continues to be my most valuable remedy for inflammations of the conjunctiva and cornea. I also find it useful in inflammations of the iris, choroid, retina and optic nerve. Dr. H. L. Lake discovered that it relieved spasm of the ciliary muscle.

The extract accomplishes what no other drug has done in controlling or preventing hemorrhage after operations on the eye, muscles, and lachrymal sac. Bloodless operations have been performed when the parts were blanched white, not only on the eye, but also on the nose, larynx, middle ear, urethra and skin. Secondary hemorrhage is lessened but not prevented. The value of the extract in acute and chronic inflammation of the mucous membrane of the eye has long ago suggested its use in the treatment of the mucous membranes of the nose, throat, ear and urethra, with good results. The experience of eye and ear surgeons, and that of

<sup>1</sup> Read before the 26th annual meeting of the Mississippi Valley Medical Association, Asheville, North Carolina, October, 1900.



others who have the opportunity to study its value, is constantly adding to our knowledge of its properties and widening the circle of its therapeutical application.

In eye surgery when cocaine anesthesia is desired the suprarenal extract is a valuable adjuvant. If, before using cocaine, the blood vessels of the conjunctiva of the eye are contracted by the extract, anesthesia is produced quicker, it is more profound and requires a smaller amount of cocaine. Operations which usually require ether anesthesia have been done painlessly with suprarenal and cocaine. Should a return of the former blood supply be anticipated, a continuous contraction of the blood vessels may be readily obtained by repeated instillations of the extract. In nasal operations, and in operations elsewhere, these facts have been also observed. In connection with the use of suprarenal in eye operations, an interesting fact was noted: Nervous patients bore the strain well when suprarenal was used, showing few of the symptoms of shock which we expect in these cases. The fact that enough of the extract is absorbed into the general circulation from its instillation into the eye to control the action of the heart may explain this freedom from shock. The suprarenal is a most powerful heart stimulant and has been used with great satisfaction in organic diseases of the heart. In chronic glaucoma the local and internal use of the remedy lessens the congestion and intraocular œdema. This property of the suprarenal has been employed in the treatment of œdema of the glottis with the happiest results.

In one case of hemorrhagic glaucoma, suprarenal gr. v every two hours for two weeks, and then three times daily for three months, seemed to control the intraocular bleeding, and the patient recovered with good vision. Some cases of cerebral hemorrhage may be benefited by suprarenal in the same way. Uterine hemorrhage has been controlled by it. The wonderful results obtained in the treatment of lachrymal stricture and suppuration of the sac, has suggested its use in the treatment of urethral stricture and urethritis with success.

EAR DISEASES.—The extract is valuable in deafness and tinnitus which is not improved by politzeration or other well-known methods of treatment. I have been astonished at the prompt and wonderful results obtained in some cases. The remedy improves the hearing in cases in which air conduction for the Hartmann series of forks is better than bone conduction, as well as when bone conduction is better than air conduction. The upper tone limit is increased. The hearing in chronic cases is benefited to a less extent than the acute. The method of administration is important. My best results were obtained by syringing five minims of a freshly prepared solution through the punctum down the nasal duct and into the naso-pharynx. I use a glass pipette, with a fine tip, for this purpose. This new and original method was published by me in the *Medical News*, January 20, 1894. It may be applied in other ways.

If, now, one examines the orifice of the eustachian tube with a laryngoscopic mirror, it will usually be found whitened and contracted. The hearing or tinnitus should be improved at once. If not, further treatment with the suprarenal will be of doubtful value. The extract is syringed down the nasal duct until the hearing is no longer improved. In one case the hearing was improved from the watch on contact to watch thirty

inches, after six applications. As soon as suprarenal has produced its maximum effect, nitrate of silver, ten grains to one ounce, is applied to the eustachian tube and its vicinity by cotton on a probe. The temporary effect of the extract is made more permanent by the action of the nitrate of silver. Dr. J. Clarence Sharp applies the suprarenal solution to the middle ear with the eustachian catheter; the extract opens the tube, drainage is established and the hearing is improved. The best results were obtained in acute occlusion of the eustachian tube from congestion of its lining mucous membrane. In one case, a physician, the hearing was so impaired that ordinary conversation was not heard. Ten minutes after treatment with the suprarenal solution the hearing became normal and the patient was enabled to attend to his practice.

The value of the extract is well illustrated in the following case: A man, aged fifty-nine, was deaf in his right ear, with a very annoying tinnitus, which he described as resembling the terrible din that a locomotive makes in blowing off steam. The left ear had been deaf ten years with tinnitus. He was unable to hear one of the Hartmann series of tuning forks either by air or bone conduction in either ear. Loud conversation was not heard. The suprarenal was applied to the orifice of the eustachian tube frequently for fifteen minutes, with improvement after each application until the noise stopped completely for the first time in his life. The patient was delighted. He was now also able to hear all the tuning-forks and loud conversation.

The extract has been used as a hemostatic in ear surgery. Dr. G. M. Black has removed the membrana and ossicles, under cocaine, without any bleeding whatever, by first blanching the tissues with the extract. Dr. Wendell C. Phillips has reported its use in cases operated under ether when the small amount of bleeding was remarkable. I have used it in suppuration of the ear to blanch and contract granulation tissue. It is a valuable adjuvant to the antiseptic treatment.

DISEASES OF THE NOSE AND THROAT.—As a hemostatic, I know of no remedy so powerful as the suprarenal. It has promptly controlled nasal hemorrhage in "bleeders" after sulphate of iron and tampons had failed. In some cases I have had to syringe forcibly the solution against the blood stream pouring from the nose in order to reach the bleeding surface and blanch it. A freshly prepared emulsion is efficient. The internal administration has also controlled nasal hemorrhage, but it is an uncertain method.

Operations on the nose, tonsils and larynx have been done bloodlessly with the use of the extract locally. Secondary hemorrhage is not prevented. I believe it occurs less frequently than when the extract is not used. Surgical shock is lessened, and the nervous dread of an operation has disappeared after the use of suprarenal. All forms of congestion or inflammation of the nose and throat are benefited temporarily by it. Dr. H. H. Curtis has found the local use successful in relieving painful swallowing in tubercular laryngitis. One case was unable to swallow liquids without suffering agonizing pain. Immediately after the application of the extract, the redness and swelling was relieved and the patient was able to swallow solid food without discomfort.



NASAL HYDRORRHOEA.—Dr. Bernard Berens<sup>1</sup> reported a case relieved by the local and internal use of the suprarenal. The discharge ceased entirely after the third dose of five grains of the dried gland. Drs. C. P. Linhart and Wendell C. Phillips have also cured this disease with the aid of suprarenal extract.

HAY FEVER.—We have no single remedy which can accomplish so much as the extract in the treatment of this disease. The local application to the nasal mucous membrane, and less often the internal administration of the dried gland, has given complete relief to patients who had not been benefited by other treatment. The relief is temporary, and the suprarenal has to be used more or less frequently during each attack. In one case, not benefited by the local use of the extract, the mucous membrane of the nose was pale.

ŒDEMA OF THE GLOTTIS.—In addition to the cases of Cohen, Boeker and McPhee, already reported, I am privileged to report another through the courtesy of Dr. H. H. Curtis: "In May, 1900, I was called to see Dr. T., suffering from acute œdema of the larynx. I found the patient much terrified, with very difficult breathing and with the symptom of intense pain shooting to both ears. Laryngoscopic examination showed both arytenoids to be very œdematous, the infiltration extending up both folds to the epiglottis. Only a glimpse of the anterior commissure of the cords was possible. I prepared my tracheotomy outfit, but first proceeded to make a saturated solution of suprarenal capsule in a test tube. By means of a cotton swab wound on a No. 14 galvanized wire which fits the mirror handle, I carried the solution into the larynx and into the pyriform sinus on either side, repeating the operation at the end of ten minutes. The relief was almost immediate. I left an atomizer with a thirty-grain to the ounce solution for partial inhalation, to be used frequently, and also a ten-grain iodoform and ether spray for inhalation, which I find excellent in these cases. This treatment was carried out for three days, when the patient was advised to go to a mountainous region for complete change of air. I am convinced, as was the doctor, that the suprarenal extract saved a tracheotomy which seemed imperative."

A case was recently treated by Dr. John J. Miller, of St. Louis, which occurred in a man aged eighty, who was suffering with phlegmonous pharyngitis; the patient was apparently choking to death. Five grains of the dried and powdered glands were insufflated into his throat, which gave him immediate relief.

DIPHTHERIA.—Dr. E. L. Kellogg used the suprarenal, both locally and internally, in diphtheria. Its internal administration seemed to diminish the congestion and œdema of the throat, while the local application was disappointing. It had no effect on the membrane. Besides the benefit to the throat, the internal administration improved the force and volume of the pulse very promptly. He considers it a valuable heart tonic when that organ is exhausted, and has learned to depend upon it as one of his regular heart stimulants in this disease. He has administered five grains every two hours for several days, and has seen no unpleasant results after its use.

UTERINE HEMORRHAGE.—A case of uterine hemorrhage was reported

<sup>1</sup> *N. Y. Medical Journal*, September 8, 1900, pp. 434-435.

in which the internal administration of five grains of the dried glands every two hours controlled the profuse bleeding. The cause of the hemorrhage was recently found to be cancer. The wonderful result obtained in this case with the suprarenal has encouraged a number of other physicians to try it, and with success, in promptly checking hemorrhage from the uterus after some other treatment had failed.

Dr. George Tucker Harrison wrote me recently: "In one case of chronic endometritis, in which I had made use of curettage with only partial success, the employment of suprarenal capsule was attended by the happiest results. One thing I noticed, and that was a marked diminution in the size of the uterus; it seemed to act by stimulating the muscular tissue." I believe Dr. Harrison is the first to observe the diminution in the size of the uterus after the administration of the suprarenal by the stomach. This is to be expected from its physiological properties.

URETHRA.—The extract has been used locally to relieve congestion in gonorrhœa. The emulsion, one part of the dried and powdered gland to ten parts of water, freshly prepared, is syringed into the urethra with an ordinary syringe. The patient can prepare and use the emulsion himself. When used just before micturition, pain and tenesmus are prevented, in most cases. Dr. J. A. Moore recommends its use before the passage of a sound. He is able to use larger sounds and prevent hemorrhage and pain. Its use to prevent and control hemorrhage in internal urethrotomy has already been published. Dr. E. L. Kellogg is the first to report its use as a hemostatic in *external* urethrotomy.<sup>1</sup> The extract was injected with a small aspirating syringe into the tissues about the seat of operation, and checked the bleeding almost immediately. The case was complicated six hours later by a brisk secondary hemorrhage.

Dr. Kellogg also reports: "In two cases of retention of urine, attempts at catheterism previous to the patient's admission to the hospital had resulted in extensive traumatism to the urethral mucous membrane with subsequent swelling and hemorrhage. The injection of suprarenal enabled us to pass filiform bougies, and over them tunneled catheters, although previous attempts had been unsuccessful. These were cases in which we should have ordinarily resorted to suprapubic aspiration."

HEART DISEASE.—The aqueous extract of the suprarenal capsule is a most powerful heart stimulant. It acts directly on the heart muscle itself. Cleghorn removed the heart from the animal and used that part of the ventricles which has no ganglia cells. The contractions of the heart muscle were doubled in strength by suprarenal. Oliver and Schäfer obtained more decided effects on the heart with suprarenal than with digitalis or ergot. Clinically, I know of no remedy which is so powerful a heart stimulant. It is active in small doses, five grains of the dried glands producing decided effects, while large doses are not injurious. I wish I could make this fact clear to you all. It is unique. I wish to call your attention to another fact which is unusual—that the extract is efficient in opposite lesions. It is beneficial in aortic or mitral obstruction as well as in insufficiency. Again, the extract relieves the laboring heart with a high tension pulse, as well as increasing the tension of a pulse which is too weak. These facts are explained when we recall that the suprarenal acts on the heart

<sup>1</sup> *N. Y. Medical Journal*, September 15, 1900, p. 480.



muscle and not on the nervous system. I believe it is an ideal heart stimulant. It is not objectionable in any way.

Dr. S. Floersheim studied the effect of suprarenal on organic heart disease. He is the first to note that a mitral regurgitant murmur may become less or disappear immediately after the internal administration of suprarenal. To him, also, belongs the credit of discovery that a dilated heart may be contracted by the remedy. The effect of the extract is immediate, and is usually temporary. No effect is apparent on the normal heart or on a strong pulse in organic heart disease.<sup>1</sup>

Dr. P. W. Barber believes he saved the lives of two cases of pneumonia with suprarenal, after other heart stimulants failed. I have seen a patient dying from a complication of heart and kidney lesions, with no pulse at the wrist, who had ceased to be benefited by the usual heart stimulants, revived a few minutes after five grains of suprarenal had been administered; the pulse became strong at the wrist and the patient was able to sit up. For six years I have known the extract to be a valuable heart tonic, and have received reports from physicians who have used it in many conditions, and can assure you that while it has not always benefited the patient, no one has as yet seen any injury from its use. I strongly recommend it to you for further trial.

Dr. S. S. Cohen, who discovered its value in hay fever, has also been the first to publish the use of suprarenal in *asthma*, with a report of twelve cases benefited.

In *exophthalmic goitre*, five grains of the dried gland, chewed, has relieved the tremor, circulatory disturbances and contracted the enlarged thyroid in five minutes. Should no decided immediate benefit follow the administration of the extract, further dosage is usually followed by disappointment. Hemorrhage from the stomach and bladder has been controlled. It has been used with success in congestion of the liver and kidneys. Some diseases of the skin have been improved by the local use of the extract. (Velich.)

Before concluding, I wish to emphasize one point in the action of the suprarenal, and to draw your attention to another in its preparation, to the neglect of which I have traced every case of failure which has come under my notice:

*First.*—The local use of the aqueous extract is invariably followed by the characteristic contraction of the vessels in all tissues, but when the drug is administered internally, its action is less constant and the result cannot be accurately predicted.

*Second.*—The action of the suprarenal follows its administration at once. If it does not take place as expected, remember its incompatibility, and be sure you are using suprarenal whose active principle is unimpaired, and not using an unknown drug resulting from chemical union with a so-called preservative or from decomposition.

After six years' constant use, I feel justified in asserting that whenever a solution of the suprarenal containing its active principle is applied locally, the characteristic action will follow.

50 E. Sixty-fourth street.

<sup>1</sup> *N. Y. Medical Journal*, October 6, 1900.

## MIDDLE EAR DISEASE IN ITS RELATIONSHIP TO THE CRANIAL CAVITY.

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[CONTINUED FROM THE OCTOBER ISSUE.]

### PUS COLLECTIONS

These may exist as—

*First.*—Extradural abscess;

*Second.*—Subdural abscess;

*Third.*—Cerebral abscess;

*Fourth.*—Cerebellar abscess.

The condition known and spoken of as localized purulent meningitis is the same as extradural abscess. Here the infective process within the ear, in its progress toward the brain, develops a mild type of meningitis about the point where the infection is to enter. The dura becomes cemented to the bone, and as the infection enters the cranium it is nicely walled off and confined to the site of the meningitis.

Where the invading process is more rapid and there is not time for the dura to throw out sufficient inflammatory material to act as a barrier to the further progress of the condition, we have an entrance effected through the dura into the subdural space. Here, possibly, the brain membranes have marshaled sufficient force together to stay the progress of the advancing disease, by throwing up a similar intrenchment to confine the disease, as that attempted by the dura on the outside.

In case this is not successful, we have the infection entering the brain substance itself to form a cerebral or cerebellar abscess.

From this it is to be seen that pus may collect either external to the brain membranes, forming an extradural abscess; between the membranes, forming a subdural abscess; or inside of them, forming cerebral or cerebellar abscess. Any single one or a collection of these conditions may exist. It is estimated that twenty per cent. of the otogenous cerebral abscesses are multiple. Knapp places the number at four per cent.

As to the location of the abscess there is great variation. In case of necrosis, its location may bear no relationship to the point of entrance of the disease. For instance, in necrosis through the roof of the middle ear into the middle brain fossa, there may result the formation of an abscess outside of or between the membranes of the brain. From this abscess fistulæ may lead to a point distant from its entrance from the ear into the brain tissue. In exceptional cases, the brain lesion has been found upon the opposite side from the affected ear. Again, the abscess within the brain need show no communicating sinus between it and the neighboring duramater and bone.

The majority of brain abscesses are of the medullary variety. It is the exception to find them in the gray matter.

Just to show the frequency of ear disease as a cause of brain abscess, I give you the statement of Von Bergman and Barker, who claim that one-



half of all such abscesses are due to otorrhœa. Meyer and Ogles' estimate of the same is placed at thirty per cent. Traumatism has generally been conceded to be the commonest cause of brain abscess; neglecting, to my thinking, in recognizing that the abscess condition is in some of these cases secondary to an ear trouble, lighted anew by the injury, and thus crediting the injury as the prime cause of the abscess.

In discussing the location of these abscesses, it interests us in particular to differentiate between the cerebral and cerebellar varieties. Were we to know the exact avenue by which the infection entered, matters would be simplified in many of our cases. And this is not always impossible. Absence of mastoid symptoms may not necessarily lead us to exclude the possibility of cerebellar disease.

In discussing the subject of various points of entrance of the disease, I mentioned the internal auditory canal and meatus as an avenue leading to cerebellar abscess, its opening being below the tentorium and within the posterior fossa. Two cases reported by Thos. Barr<sup>10</sup> very beautifully illustrate this by showing on the specimen how the infection traveled from the middle ear, by way of the labyrinthine spaces and auditory and facial nerves to the posterior fossa, and caused a cerebellar abscess.

In general, authorities agree that young children seldom suffer from otitic abscess, Koerner giving the cause as due to the greater distance of the posterior fossa from the ear. They occur most frequently between the ages of ten and thirty. Out of one hundred and seventy-seven cases of abscess of otitic origin, Koerner found ninety-eight were in the cerebellum and seventy-nine in the cerebrum; while of fifty-seven cases of intracranial complications found in Pitt's nine thousand autopsies, three were abscess of the cerebellum and fourteen of the cerebrum.

Of the cerebral abscesses of otitic origin, the temporo-sphenoidal lobe is the most general location; while those in the cerebellum, in the main, are situated in one of the hemispheres and along the course of the sigmoid sinus.

#### SYMPTOMS.

To my mind, the history of having had or still having purulent middle-ear disease is symptomatic of, although in itself not sufficient to diagnose, abscess of the brain.

Any brain symptoms that may be present in an acute suppurating middle-ear disease are usually so obscured by the more intense otitic ones that the congestion or mild inflammatory condition of the brain membranes may be overlooked, as all the attention of the patient is directed to the painful ear.

Hence, in the early or so-called "forming stage" of the abscess, most of the symptoms escape us or are interpreted as due to other conditions; and as a result it is not until the fully formed abscess is present that we realize the importance of our case—and in some instances not then, for such abscesses have been known to exist for years without causing any apprehension of their presence; so that during the forming or initial stage of the abscess the symptoms are either mistaken for some other condition, or are overshadowed by the more acute ear pains. During the quiescent stage, which varies from days to months and in some few cases to years, there are, of course, no symptoms; and it is in the great majority of cases during

the fulminating stage that the symptoms that I will now discuss are to be found. These remarks, of course, have reference to the chronic abscess. In the acute abscess we do not have a distinct capsule formed, as in the chronic variety, and as a general rule there is no period of quiescence.

Of the several symptoms to be mentioned, that of headache is the most common; not necessarily on account of its severity, for this varies a great deal, but more on account of its frequency. It occurred in two-thirds of all of Meyer's cases. According to Ladame, it occurs more commonly in abscess than in tumors.

As a rule, it is the earliest symptom we have, and is usually located over the site of the lesion, although this is not invariable, as it may be diffuse, over the forehead or over the entire head.

The pain is not so acute in the initial stage; there remains only a general dullness of the same. This, too, is true of the hypersensitiveness about the head and particularly over the site of the lesion. Pressure and percussion on the skull will make the patient wince, but the pain is not transmitted to the opposite side. This we noted as more common in sinus disease.

The state of mental hebetude is a somewhat prominent symptom. The mind seems not to work well for itself. Even when prodded on, as in conversation, there are marked evidences of a halted cerebration. The patient when spoken to seems to have his mind on something else, and is looking with a vacant and dream-like expression into space. He responds to one's questions slowly and methodically, as if weighing every word, and when there is a lull in the conversation he may fall asleep. Macewen compares these symptoms somewhat to those of poisoning by opium.

Next to headache, Meyer found fever to be a prominent early symptom. It occurred in one-eighth of all his cases. But, as just stated, the diagnosis of abscess, as a rule, is not made early in the disease, and hence the temperature at the time of recognizing the condition is more frequently found to be subnormal. The differences in temperature findings is very likely explained in the accompanying condition found early in the disease, the temperature being due to the accompanying phlebitis or meningeal congestion, or to the acute suppurative process. Such is seen in a case of Ridley's,<sup>11</sup> where a cerebellar abscess was found in a boy of fourteen years with chronic otitis, presenting marked pyemic symptoms, temperature 99° to 105°, but with a slow pulse, respiration and cerebration. In uncomplicated cerebral abscesses the temperature is usually about normal or slightly subnormal, 97° to 99°.

Pulse and respiration are slow. The former is what is known as cerebral pulse—that is, slow and full, and varying between forty and fifty beats. The slowness of the pulse is due to the pressure exerted by the abscess, but is not always necessarily lowered in proportion as the abscess is large; for a large abscess may be accompanied by a sufficiently large amount of brain disintegration so as to lessen the amount of pressure exerted by the accumulated pus.

The respirations are also slow and regular, but at times may be of the Cheyne-Stokes type; and especially is this likely to be true where the abscess is located in the cerebellum. A peculiarity in both the temperature and pulse is to be noted where the abscess is emptied. At first they imme-



diately rise, and then synchronously fall to the normal. As with temperature, so with rigors. The earlier the case is seen, the more prominent is this symptom. Later on it is exceedingly uncertain in appearance and variable in degree.

Vomiting is another early symptom, and is very frequently present, but becomes less so as the fully formed stage is reached. It is characteristic in that it is spontaneous, unaccompanied by nausea or retching. Obstinate constipation, especially in the otherwise regular, is, in connection with the other symptoms, diagnostic.

Dizziness and vertigo, on attempts to get up or move about much, are oftentimes present.

The presence of convulsions and paralysis depends a great deal on the particular part of the brain involved; and hence, if present, may be symptomatic of the location of the abscess. Paralysis of the third cranial nerve would cause ptosis, strabismus and dilated pupil.

Examination of the eyes for the finding of changes in the fundus will, in many cases, prove positive; but it is not as constant a symptom in abscess as it is in tumor. To show the value of ophthalmoscopic examination in these cases, I refer you to the work done by Gradenigo, Delstanche, and others, who show that in one-half of all cases of intra-cranial complications due to middle-ear disease we find lesions of the papilla.

Owing to the abscess being, as a rule, situated outside of the motor area, symptoms of localization are seldom present, although at times such may appear. In some cases of abscess of the temporo-sphenoidal lobe, we may have a hemiplegia of the opposite side, involving the face, arm and leg. It may be partial or complete, and occur in the reverse order.

Aphasia is another one of the less seldom symptoms. If it is of the sensory type—word deafness—the abscess would be located in the posterior part of the temporo-sphenoidal lobe; and if of the motor type, its location would be at the base of the third and ascending frontal convolution.

In case the abscess is located in the cerebellum, the head pains in the last stage are persistent and very often intense, and, as a rule, located at the occiput and nape of neck.

Vomiting is also more constant and uncontrollable than in temporal abscess. Koch<sup>12</sup> mentions as diagnostic the possibility of double-sided amaurosis as contrasted to temporal abscess, where this has never as yet been noted. Koch also mentions the presence of patellar reflex disturbance, more often decreased, as a symptom wanting in temporal abscess, and at times present in cerebellar abscess.

Emaciation and loss of muscular strength are very noticeable symptoms, the cause of which may be found in the explanation of Luciani, who says that within the cerebellum reside the centers for the musculo-nervous apparatus.

Abscess of the occipital and frontal lobes as the result of ear disease is the exception, and occurs only seldom, and then as the result of an infective embolism (Macewen).

#### DIFFERENTIAL DIAGNOSIS.

This phase of the subject is of the utmost importance to the operator. He has a variety of conditions to deal with, some of which require quite

different procedure in operating than others. The symptoms of sinus thrombosis and abscess stand out in bold relief from one another, and as individual conditions are not to be confounded; but where we have a combination of conditions, as very often occurs in sinus thrombosis and cerebellar abscess, we may find ourselves with a very difficult problem to solve; but in just such a combination of conditions as is mentioned it matters not so much, as the route of operative procedure may be the same—that is, through the mastoid *via* the sinus and on to the posterior fossa. But when we come to differentiate between an abscess in the cerebrum and the cerebellum, it becomes a matter of much greater difficulty. The latter produces less marked local symptoms, and hence is more difficult to diagnose than the former.

Luc declares the differential diagnosis between subdural abscess, meningitis and cerebral abscess to be difficult, and advises an exploratory operation, consisting of a series of incisions—first through the dura—and if no pus is found then through the pia, and then, if necessary, through the cerebral tissue. He condemns puncturing the membranes in an effort to locate a pus cavity in the brain, but instead advises going step-wise. This same advice seems applicable in cases where doubt arises between a phlebitis and thrombosis and a pus collection in the cerebellum. Although incising the membranes has its advantages, they seem to be offset by the liability to hernia of the brain and its results. Puncturing of the dura before exploring the brain tissue may be done aseptically with a heated electrode.

At times we are called upon to differentiate between diffuse purulent meningitis and that of abscess and sinus disease. Often this very condition masks the forming stage of an abscess within the brain tissue. As a means of differentiating between such a condition of meningitis or that of brain abscess from sinus disease, examination of the cerebro-spinal fluid is at times employed. Leutert<sup>13</sup> and Quincke recommend the lumbar puncture, while Koch suggests puncture through the dura at site of operation as methods of procuring the fluid. Absence of polynuclear leucocytes, increase of fluid matter, clear fluid, absence of micro-organisms, are negative signs. This method would seem of greater value in determining between a meningitis serosa and an abscess of the brain on account of the excess of fluid present, and by withdrawing some would materially relieve the symptoms and possibly cure the trouble. But as this condition so often accompanies that of abscess, little may be gained curative by such method.

Other varieties of meningeal trouble, like tuberculosis and a simple hyperemia, have often to be excluded. Both are usually confined to children. The tubercular meningitis is, as a rule, secondary to a tubercular affection in the ear or some other organ.

Tumors are at times to be considered in the diagnosis, but their very slow growth and the absence of ear disease are usually sufficient to exclude them. There is a growth that complicates ear disease, which was described by Balfour, and called chloroma. It is a very rare and malignant disease, and occurs in the young.

In case facial paralysis is present, it may be important to differentiate between that of cortical and of peripheral origin. Macewen says that in the cortical kind the paralysis is not as complete, and the sense of taste in the anterior two-thirds of the tongue remains intact.



As a means of diagnosis, percussion of the mastoid is being relied upon more and more nowadays. Authorities like Macewen and Koerner advocate and indorse it.

Just to show how a continued and overlooked cause of pyemic symptoms may occur, let me but briefly refer to a case of infected thrombosis of the sigmoid sinus belonging to C. Barck. Ligation of the jugular vein had been performed in order to limit the systemic infection, but on autopsy a large abscess containing two tablespoonfuls of pus was found situated in the posterior cervical triangle under the deep fascia of the neck, communicating directly with the sigmoid sinus by way of the mastoid foramen.

#### PROGNOSIS IN OTITIC BRAIN ABSCESS.

The course of the chronic abscess, when not interfered with, is death: due either to rupture into the ventricles of the brain or upon its surface, or from extensive edema or, as in some cases, anemia of the brain. Kopke,<sup>14</sup> in reviewing one hundred and forty-one cases operated on, found 40.4 per cent. were permanently cured. Twenty-six were acute, showing 42.3 per cent. cured, and the rest were chronic with 43.1 per cent. cured. He found cases with normal or subnormal temperature offering a better prognosis. In the acute variety death is the usual termination when not interfered with surgically. It occurs anywhere between eight days and four to six weeks. A very rare exception to this is a case seen by me in consultation with Dr. Porter, of Chicago. The very uniqueness of this case warrants its recital here.

R. W., two and one-half years, on the 26th of January, 1900, was suddenly taken ill with a convulsion. Temperature, 104 degrees. Vomited once. A diagnosis of entero-colitis was made, and he was put on small doses of calomel. The following day the temperature was 99°. No more convulsions or vomiting. From January 29th to February 5th the temperature ranged between 104½ and 99 degrees with rather sudden remissions. Patient very restless. Meningitis was suspected and a specialist on children's diseases was called in, who diagnosed tubercular meningitis. Its cause was looked for about the ear, but no evidence of any ear trouble could be made out by them. From the 5th to the 9th the temperature was between 97 2-5 and 98 4-5 degrees, pulse 116 to 88. Patient very restless unless under full doses of bromide. Inclination to throw head backwards and arms over head frequently. From the 9th the temperature went gradually up until the afternoon of the 12th, when it reached 103. Then it fell again to 100, only to go up once more to 103 on the following day. The pulse became very weak and stimulants had to be used continually. He was now somnolent most of the time and without any bromide. On the 14th the temperature became subnormal and remained so for the next seven days. At this time the eyes were examined by an oculist, but no fundus changes were found. On the 26th I saw the patient for the first time during his illness. I had seen him a year prior to this when suffering from an acute otitis media with pain over the left mastoid, but this subsided in two or three days. The little patient was emaciated to the extreme, and as a consequence was weak and anemic. His right ear began discharging the day before, and when I saw him was continuing so. The secretions were examined and found to contain only

the streptococci and staphylococci. The left ear was dry, but the drum membrane bulged slightly, showing fluid within the middle ear. The posterior superior wall of the ear canals showed no sagging whatsoever. Both mastoid regions were sensitive to pressure, but presented no redness or edema. Temperature at this time was 100 2-5 degrees, and his speech was disturbed. The aphasia was of the ataxic variety. When spoken to his answers were long drawn out, in measured style, and not entirely correct. Very often the wrong word was used. There was clearly a lack of co-ordination in the muscles concerned in speech production. Two days later the left ear began discharging, and both ears continued to discharge profusely, with a corresponding rapid improvement in the patient. One week later measles developed, endangering the life of the already exhausted little one; but fortunately he weathered this last trouble safely, and when seen last by me, only a few days ago, he was in the very best of health.

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LIFE AND MEDICAL MORALS OF THE XVII. CENTURY.<sup>1</sup>

By T. C. MINOR, M. D., of Cincinnati, Ohio.

A SATIRICAL tradition almost always represents medical men in the time of Moliere as strange and burlesque marionettes, clad in long robes and collars, with the well-known doctor's cap—armed, too, with the ever-present syringe, the practice of those days, in all its activity, being summed up in those three mechanical words: use bleeding, purging, and clysters. This, an easy and very paradoxical interpretation, forced by the complexity of their functions, marked these burlesque personages as physicians. Under the Grand Monarch—as in our day—all these doctors, before becoming physicians, had to be men. They were young, happy, had their little troubles, and struggled to live. It is into this intimacy with their morals that we wish to introduce the medical man of to-day. He can then make comparisons as to the student of other times and his own modern experience. It will show him, too, the professional cares that his medical ancestors had to endure, and will accept, doubtless with a lighter heart, the more modern life imposed on the medical student, the young medical man of the later 20th century.

Students who, under the Grand Monarch, were the noisy and mischief-making portion of the medical department at Paris rarely enjoyed palatial

<sup>1</sup> Based on translation from the French.



luxuries. The majority lived in furnished rooms: the *Hotels Coq-Hardi*, *Hotel aux Boeufs*, *Hotel du Gras Chapelet*, etc., the curious signs of which once ornamented the streets of the modern Latin Quarter. Some students rented rooms in private houses. No member of these embryo physicians had much money: a bed, table, two chairs, a closet, and small hanging book shelves, occasionally the luxury of a screen. In such a place they indulged in the softness of slumber and dreams of a great professional future. They were waked from their couches early every morning by some servant or early rising comrade. It was then necessary to dress hurriedly and go to their college or hospital. The streets of Paris, in those days, enjoyed an ancient renown—they were filthy. Each student walked carefully, watching each footstep, for fear of soiling buckled shoes, or long mantles. These paths were through a quarter whose inhabitants were under police suspicion: thieves, hectoring bullies, young women of easy virtue, etc. Walking was difficult, inasmuch as the inhabitants had the habit of throwing the contents of cooking utensils and chamber pots out of the window with the old traditional Parisian cry of "Look out there below!" "Take care of this under!" and the students often heard the cry too late to avoid some filthy ducking. All kinds of venders crowded the narrow streets. Brandy dealers: "Brandy! Brandy! a sou for a small glass!" "Light bread! white bread!" Venders of fish and vegetables, cheese dealers, rat killers, milkmen, hucksters of all sorts crowded each other. Monks of various religious orders implored charity, always followed by an ass that carried provisions given them for the help of the poor. Finally, the student reached the college of the medical faculty, going to his lecture room or to the chapel—for religion in those days played a large role in the lives of medical students. They often assisted at church ceremonies and celebrated a great number of masses; besides, they had six general and obligatory communions each year. The doors of the college were only open to Catholic students then; it was necessary to bring a certificate of baptism before matriculation; and when a student received the degree of Doctor of Medicine, he swore "by Our Lady, to always defend the Catholic religion, even at the price of my own blood."

For four years medical students were called "Philirates;" they only became "Bachelors of Medicine" after a rigid examination on anatomy, physiology, hygiene, pathology, and upon the text of the works of Hippocrates. Afterwards, if they sustained their examination with a thesis, they were made "Licentiates." The title of "Doctor" was not really necessary to exercise their profession; it only opened a way of access to the higher grades and honors of the faculty. The average price for medical degrees was about \$170.00 of our money. The faculty even gave poor and worthy students long credit. But if teaching was given for a small sum, it is needful to remember that the amount of money allowed by families to their medical student sons was very moderate. Many students were habitually in debt to money-lenders, and often pawned their books and clothing to usurers. Those who enjoyed a good credit for food and lodgings were the happiest.

After leaving morning lectures, the students always went to dinner. The richest students dined at forty-cent places; for thirty cents, too, one could obtain a fine meal. Good dinners were served for twenty cents, sufficient eating for fifteen cents, a moderate but poor meal for ten cents.

## LIFE AND MEDICAL MORALS—MINOR.

The poorer students nourished themselves at a cost of from three to five cents for dinner and still kept a healthy stomach. Soups, codfish, peas and beans formed the more ordinary menu for dinner. A small glass of wine was supposed to aid digestion. They used various liquors, too, such as "Populo," "Rossolis," and "Ratabia." In the afternoon some students went to special courses of lectures or to medical libraries; others were associated with practicing physicians, and went with the latter to visit patients—the best possible clinical school of instruction. About three o'clock the students, for the most part, were wont to gather at certain drinking-places or cabarets, such as the "Silver Crown," the "Three Thunders," the "Lavender," etc. There they drank, played dice, cards, backgammon, while they smoked long earthenware pipes and enjoyed themselves until supper-time. They were fond of the game of tennis, and tennis courts were numerous. Some students played billiards, and others frequented fencing-schools, for fencing in Paris was then a necessity. The students all carried swords, and not for display, either. Duels were frequent. The streets of Paris were very unsafe at night; cut-throats and drowners abounded near the Pont Neuf, and the mothers of country medical students at Paris were in constant terror for the lives of their sons. Some medical students were quite dandy, arranging fine toilettes in order to promenade on the fashionable streets where they could see the police and richer world, and perhaps run into some gallant adventure. At times the students gave small parties, little suppers, at some chosen place of reunion—some well-known Parisian restaurant, such as Bous Enfants or the Pomme de Pin. The cooking at such places was famous and the wine-cellars contained the best. This improvised banquet usually consisted of two kinds of soup, a bisque potage of lemon and yolk of the egg, fine cut up Mayence ham, chitterlings of pork, pig cutlets with Robert sauce, a fricasse of chicken with white gravy, sheep's feet broiled, round of lamb with mint sauce, mushrooms with cream, etc., etc. For wines they had Arbois, Chablis, Sillery, Orleans, and Ermitage. These dinners were very lively affairs—Catants, Nichon, Babette, Musette or Guillemette—those beauties of the Latin Quarter whose pretty faces were artistically rouged and powdered being ostentatiously present. In the evening such parties usually ended up at the Theatre de L'Hotel de Bourgogne; while on their way home, afterwards, the students would run into crowds of lawless quarrelers, drunkards, serenading bands and the wilder dissolute element of Parisian night-prowlers.

On Sunday the students took some boat on the Seine—a transportation to the country at low excursion rates—to some village near Paris. Here were the young ladies again—the perfumers, dressmakers, milliners (those little French ones!) launderers, chamber-maids, cooks, washerwomen, etc., etc.—many charming mesdemoiselles, who while young belonged to the oldest profession. Vice and virtue commingled with a most particular charm for the medical student; he was much then, in this respect, as he is now. There, dancing and all manner of outdoor games were indulged by these gay Parisians of both sexes.

But this rather joyous life could not last forever. After some years of liberty and pleasure, it was necessary for the medical student to settle down to be a staid doctor. So the new-fledged physician said a fond adieu



to the Pomme de Pin and the pretty grizettes of his quarter. He had to become honest now and make a "*good marriage*," as the French term it. His new life commenced then and was most often one full of struggles. The physicians of those days had a much harder battle with quackery to fight than now. Charlatanism is from all times, but it especially flourished at that epoch; it was full and intense in its vigor. Italian physicians in those days enjoyed a popular credit, only equaled by the American dentist practicing in Europe to-day. The first care of empiric was to Italianize his name; there were bone-setters, mental healers, charmers spread over all the streets. They had musicians in front of stands, or on wagons, who played music while the quack cured the crowd. When they could they loudly proclaimed the virtues of "*Marocain*," or the miracles wrought by "*The Magical Elixir*." Some of these quacks had splendidly equipped offices, with all kinds of glittering devices to make a moral impression on their clients, just like some of our so-called regular specialists do now; and they made fortunes treating colics, stone in the bladder, bunions and corns, selling all manner of most extraordinary remedies. Convents and other religious institutions also sold miraculous liqueurs and particular recipes of alleged Holy Virgin.

Venereal diseases was the most profitable field for an army of special charlatans. Remedies for the sure cure of secret diseases, "*medicine that will not keep you in the house during treatment, medicine that no one can detect*," were to be found on every corner. The barbers and surgeons of those days enjoyed a great reputation for the cure of clap and the French pox. It is said to be a fact that a most eminent surgeon of that time knelt before the statue of Charles VII., King of France, and prayerfully thanked the image for bringing back from Naples a disease that enabled that generation of surgeons to live on. Against all these surgeons, barbers, foreign doctors, quacks, Italian charlatans, astrologers, and a crowd of pretenders from cheap provincial medical schools, the Paris medical graduate waged bitter warfare.

The loud and public disputes with this army of medical outlaws contributed to degrade the art of medicine in the eyes of the public, that only glanced at the surface of things; besides, the wits and comedy writers of the epoch took up the popular ridicule of all medicine and doctors; nevertheless the better class of physicians were held in high esteem by the educated higher classes of society. Medicine conferred a stamp of nobility; and that this is uncontested is seen by the fact that the best medical men of that day were admitted to the Order of Knights of Malta. Court physicians received every kind of public honors. Almost all the best of the doctors of that day were good-humored even when aggressive. Doctors' stories were enjoyed with zest. So good were the physicians of those times that La Bruyere remarked, as for the fun made of medical men: "*No matter if men must die, no matter how they wish to live, the real good doctor will be a joker, and the one best paid.*"

Under the Grand Monarch the custom of families was to pay their household physician at the end of every year. Sixty cents was charged up for each visit. Yet many doctors complained then, as now, that their bills were not paid; but there is good reason to believe that the better class of physicians lived lives of comparative comfort on their professional incomes.

The account-book of the celebrated Eusebius Renaudot shows that he collected about \$34,000 in the year 1666, and this noted doctor kept his private wine-cellar stocked with the best brands, rode in magnificent carriages, and was the father of twelve children, who were all well raised. Two centuries later, can you do as well, my gentle medical reader?

To those fond of this kind of literature we commend the new work of Dr. Fantelle, "*Les etudiants en medecine de Paris sous le Grand Roi*" (Paris, 1899), as this epitome is from that very charming work; almost as captivating, in fact, as Dr. Reynaud's "*Medecuis au temps de Moliere.*"

## BORDER LINES IN TYPHOID.

BY JAMES A. MATLACK, M. D., of St. Louis, Missouri,

Junior Assistant, St. Louis City Hospital.

PERHAPS the brightest page in the annals of preventive medicine is the one whereon is recorded the wonderful decrease in the prevalence of typhoid fever in the larger centers of population since the adoption of improved sanitary measures, especially in the line of drainage and water supply. While the devotees of hygiene have been struggling to reduce typhoid fever statistics, the bacteriologists have added to their labors by introducing the Widal test, whereby every case of the disease, no matter how mild or atypical, has a greatly increased chance for recognition. By the aid of this test many cases are now positively diagnosed as typhoid which in former years must have been given some other name, or the diagnosis left in doubt; and much improper treatment is avoided and many lives saved. On the other hand, there is a fair proportion of cases in which too much reliance is placed on the bacteriological test, to the point of disregarding time-honored and proven clinical manifestations, and where much hardship is experienced by treating as typhoid fever what is in reality some simpler ailment.

To illustrate how easily one may be led into error by disregarding either scientific or clinical aids, or by relying on one to the exclusion of the other, I present herewith a few cases selected from my ward records during the past month.

CASE 1.—J. T., aged twenty, came into hospital with illness dating two weeks back. He stated that he became sick suddenly, with a severe chill, followed by high fever and profuse sweating. Rigors were repeated every second day up to within a few days before entrance. Had headache and felt worn-out. Bowels constipated. Had no chill after entrance into hospital, and fever was continuous for about five days, when it returned to normal. On second day a few rose spots appeared on chest, and abdomen was somewhat tympanitic, but not tender. Widal reaction was positive. No plasmodia. Return to health was gradual, but satisfactory.

CASE 2.—A. H., aged forty-two. Illness dated three weeks back. Began with chill, fever, headache, nausea and soreness in joints. Three days later had another rigor, which recurred every second day for two



weeks. Had one severe chill after entrance. Temperature dropped to normal about six hours after chill, but next day rose again and remained constant. Repeated examinations for plasmodia were negative. Widal reaction positive. Patient was in fairly good physical condition at time of entrance, but soon developed typical symptoms of typhoid, including tympanitis, rose spots, headache, and severe diarrhoea.

CASE 3.—O. F., aged twenty. Entered hospital giving history of chills and fever for week past. Says he had distinct rigors daily, and felt all right between attacks. At time of entrance he had headache and was constipated. Abdomen slightly tender, and skin showed typical rose spots. Had nose-bleed once. Pulse dicrotic. Widal positive. Temperature was constant on first day; next day there was a morning remission, and thenceforward it was normal. After two or three days patient appeared entirely well.

CASE 4.—W. K., aged twenty-seven, had been sick four days. Had headache constantly, epistaxis several times; no appetite; pains in joints; diarrhoea. Showed typical typhoid feces with lethargy and cachexia. Few rose spots on abdomen. Liver and spleen enlarged. Temperature was constant during first twenty-four hours, but later became intermittent. Widal reaction negative. Plasmodia found in blood. Quinine administered and patient recovered rapidly.

Case 1 shows a typical malarial history, with typhoid reaction positive, the bacteriological diagnosis being sustained by subsequent course of disease. Case 2 is similar. Case 3 shows a malarial history, with positive Widal and some of the prominent clinical symptoms of typhoid, yet the course of the disease would seem to indicate that typhoid infection was not present. Case 4 shows a typhoid history and symptomatology; but the condition was demonstrated to be malaria pure and simple. Instances similar to these might be multiplied indefinitely, and in looking over case records of typhoid and alleged typhoid, one is impressed with the necessity of making use of *all* diagnostic aids before outlining treatment for a doubtful case.

Many cases of typhoid fever have been allowed to take an unnecessarily severe, or even fatal, course because of practitioners placing too much reliance on clinical symptoms as related by patients, without early resorting to scientific tests. And, on the other hand, many physicians who are hide-bound to laboratory tests often unnecessarily waste the time of their patients and keep healthy people on starvation diet, without being at all justified by the symptoms present. A diagnosis can usually be made with certainty after intelligent observation and careful use of all means of information; but if an error cannot be avoided, it should always be made to lean toward conservative practice.

## SOME OBSERVATIONS GLEANED FROM RECENT CASES OF MASTOIDITIS.<sup>1</sup>

BY GEO. F. KEIPER, A. M., M. D., of La Fayette, Indiana,

Eye and Ear Surgeon to St. Elizabeth Hospital, St. Joseph Orphan Asylum, Indiana  
State Soldiers' Home, Children's Home, Pension Bureau, Etc., Etc.

CASE 1.—Dr. J. S., æt. seventy-four, was first seen June 26th at his home. Right mastoid very tender to touch, no discharge from ear. Punctured the drum, but got very little pus. Temperature, 99°; pulse, 80. The ordinary treatment was ordered. He did well until June 28th. At the regular visit made at noon he seemed to be in fair condition. At 7 P. M. his son, Dr. F. S., telephoned that his father's temperature had gone up to 102°, and that his pulse was 80. Taking Dr. Webster of our city with me, we drove to his home immediately. From the observations made we diagnosed septic absorption, and the possibility of an operation was stated. We determined to wait until the next day for further symptoms. We were gratified to find his temperature was normal at 10 A. M. the next day, and his pulse was 80. The tenderness over the mastoid was gone. From this on he steadily improved and recovered his wonted health and hearing. What nature did for him was to take up the pus by the lymphatics and mastoid veins, pass it through the lateral sinus, doubtless, thence into the general circulation and out of the body through the emunctories.

CASE 2.—Charles G., æt. thirty-two; cook at Indiana State Soldiers' Home. This case has been reported in the *Stylus*, *Charlotte Medical Journal*, and *American Practitioner and News*. He had double mastoiditis which had been in existence three weeks when he called in Dr. E. C. Davidson, who recognized the condition promptly. He explained to him the gravity of his condition. The writer was called in consultation and verified the diagnosis and concurred in the doctor's opinion concerning the gravity of his condition. Operation was made the next day at St. Elizabeth Hospital. Both mastoids were cleaned out of all dead bone, pus, and cholesteatomata. Surgical erysipelas followed, which was relieved by the application of pure ichthyol to the face and the depths of the wound. Tincture chloride of iron was given internally in maximum doses. He made a steady recovery, and is now back at his work. Facial paralysis developed in this case, due to packing the right wound too tightly. Repacking the wound gently and lightly promptly relieved the condition.

CASE 3.—Daniel S., æt. sixty-five, of Sheldon, Illinois. He was referred by Dr. Ethan Allen, April 25, 1900. Had the *grippe* seven or eight years ago. He had mastoiditis on the right side then, and each spring since then has had a recurrence of the trouble. The mastoid process was very tender, patient exhibiting in his face the extreme suffering which he was enduring. Operation was advised. The advice was accepted. Assisted by Drs. White, Throckmorton, Bitting, Miller, Beasley, and Allen we opened the right mastoid. We found the bone to be the consistency of ivory. Progress toward the antrum was very slow and tedious. With chisel and mallet we could only chip off small shavings of bone. However prolonged the operation was, he rallied well and made a steady recovery, having suffered no pain since the operation.

<sup>1</sup> Prepared to Mississippi Valley Medical Association meeting, October 9 to 11, 1900.



CASE 4.—John S., æt. sixteen, of this city, referred by Dr. Westfall, and seen May 7th. Condition of patient very bad. The teeth covered with sordes and the tongue with a heavy dark-brown coat. The left mastoid was tender. Dr. Westfall had been advising an operation for a month, but every time he mentioned operation his advice was declined until the above date, when he was brought to St. Elizabeth Hospital. The patient's mind was clear. After examining the case with Dr. Westfall we concluded that his only hope lay in an operation of opening the mastoid and, possibly, cranial cavity. To this consent was given, and he was taken to the operating room and prepared for the operation. The usual preparations were made. When the trephine was applied to the bone and given a few turns, pus of the most stinking odor welled up from the hole made by the pin of the trephine as well as from the margins of the button of bone. The odor was intensely sickening. We found all the mastoid process necrosed, and opened the bone as well as the brain cavity backward to the lateral sinus. The latter was occluded. It was curetted until blood flowed freely. The brain tissue as well as the coverings was necrotic. We finished the operation, evacuating a small superficial brain abscess. No other abscesses could be found after thoroughly exploring the substance of the brain, using a hypodermic syringe with a long needle. Considering the hopelessness of the case, he rallied well. The temperature fell from  $104^{\circ}$  to  $98^{\circ}$  at 1 P. M. The pulse was 94, and fairly good. As it is the intention of the paper to call attention to striking conditions, we will pass by all details to describe the odor of the pus and how we rid ourselves and him of the odor. In passing, the writer desires to add that the case will be reported in detail hereafter in another paper. On account of the intense odor, it became necessary to dress the head every four hours day and night. All means used to control the odor failed, until conversing with Dr. Adah McMahon, she told how she had used a mixture of equal parts of oil of eucalyptus and camphor in a case of cancer, which controlled the odor beautifully. This suggestion was immediately tried on our patient, and we were gratified to find it successful in controlling the horrible odor.

At 9 o'clock the next evening, having reacted so badly, he was again put on the operating table, the wound reopened and examined; necrotic brain tissue was removed, and the wound well irrigated, dried and dressed. We found the dura-mater loose from the bone for a distance of two inches from the opening as far around as we could gently pass a probe. At times we injected per rectum the normal saline solution with no effect. We then injected it through the skin of the chest and abdomen. Wherever thus injected necrosis of the skin immediately followed. Antistreptococcus serum was tried but with no marked effect. Nothing did him any good. He thus lingered until May 13th, when he died at 5 P. M. He had been in a semi-comatose condition since 10 o'clock in the morning. The family refused a post-mortem examination.

The aim of the paper, as previously stated, has been to briefly bring out a few of the interesting features of each case. Each one possesses sufficient of interest to warrant writing a paper upon it with such comments as may be of value to those who operate thus. Brevity has been the attempt, and hence the reader is referred to the text-books for such details of operation and treatment as are here omitted.



**A Text-Book of the Diseases of Women.** By HENRY J. GARRIGUES, A. M., M. D., Gynecologist to St. Mark's Hospital in New York City; Gynecologist to the German Dispensary in the city of New York; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mothers' Home and Maternity Hospital; Ex-President of the German Medical Society of the city of New York; Fellow of the American Gynecological Society; Fellow of the New York Academy of Medicine; Member of the Society for Medical Progress, of the Eastern Medical Society, of the New York County Medical Society, etc. With 367 Illustrations, 756 pages. Third Edition, Thoroughly Revised. Cloth, \$4.50 net. 1900. Philadelphia: W. B. Saunders & Co. Lewis S. Matthews & Co., 714 Pine street, St. Louis, Agents.

This standard work is favorably known to most of our readers, who have followed the author's previous editions with satisfaction. The present volume is revised and improved, as are all new editions of popular text-books published by W. B. Saunders & Co. It is written in a clear, concise style, well illustrated, and is essentially practical.

**Bacteriology and Surgical Technique for Nurses.** By EMILY M. A. STONEY, Superintendent of Training Schools for Nurses, St. Anthony's Hospital, Rock Island, Illinois; Author of "Practical Point in Nursing," "Practical Materia Medica for Nurses," etc. Illustrated. Cloth. 190 pages. \$1.25 net. 1900. Philadelphia: W. B. Saunders & Co. Lewis S. Matthews & Co., 714 Pine street, St. Louis, Agents.

The subject is clearly outlined and simplified so as to be valuable for nurses, and for its intended purpose it is the best work we have seen. Every surgeon should see that his nurses receive a copy of this book.

**Saunders' Question Compends.** Essentials of Histology. By LOUIS LEROY, B. S., M. D., of Vanderbilt University. Illustrated. Price, \$1.00. 1900. Philadelphia and London: W. B. Saunders & Co.

This is the only compend strictly limited to histology; and while it is condensed it seems complete. It deserves a large student patronage.

**A Text-Book of Pathology.** By ALFRED STENGAL, M. D., of the University of Pennsylvania. With 372 Illustrations. Third Edition, Revised. Price, \$5.00. 1900. Philadelphia and London: W. B. Saunders & Co.

This work is too well known to necessitate a lengthy review, being the only one-volume work that so completely covers general and special



pathology. The new edition has been rewritten and brought up to date in all departments and must necessarily have, at least, as large a sale as the former popular editions.

**Willcox's Reference Book and Formulary.** Containing Approved Points on Emergency Work, Prescription Writing in Brief, Dose, Obstetric and Other Tables, and a Condensed Formulary Including Only Formulas of Recognized Value. Edited by T. A. HOPKINS, A. M., M. D., of St. Louis. 291 printed pages and 24 blank leaves for additions. Bound in Flexible Morocco. Price, \$1.50, post-paid. St. Louis: C. D. Willcox.

This volume is a mine of valuable information on medical subjects, and will prove invaluable for quick reference. The editor and publisher are both to be congratulated on the excellent work done. The subject-matter is arranged under five heads, each one complete in itself. The contributors include St. Louis teachers and clinicians only.

**A Treatise on Mental Diseases:** Based Upon the Lecture Course at the Johns Hopkins University, 1899, and Designed for the Use of Practitioners and Students of Medicine. By HENRY J. BERKLEY, M. D., Clinical Professor of Psychiatry to Johns Hopkins University; Chief Visiting Physician to the City Insane Asylum, Baltimore. With Frontispiece, Lithographic Plates and Illustrations in the Text. Cloth. 600 pages. New York: D. Appleton & Co. 1900.

The contents are divided into three parts: *First*, The Anatomy and Histology of the Central Nervous System; *Second*, General Pathology; *Third*, Clinical Forms of Mental Diseases. In the latter part, under Special Forms of Insanity, we have five groups: Idopathic Insanities; Insanities Consecutive to Organic Lesions; Insanities of the Physical Degenerate; States of Arrested Physical Development; The Psychoses of Childhood. And as a sub-group the Intoxication Insanities.

This work should be in the hands of every physician, as it is one of the clearest and most comprehensive works written on the subject of mental diseases that is available to the general practitioner.

**Diet Lists and Sick-Room Dietary.** Compiled by JEROME B. THOMAS, JR., A. B., M. D., Instructor in Materia Medica, Long Island College Hospital; Assistant Bacteriologist to Hoagland Laboratory. Second Edition, Revised. \$1.25 net. 1900. Philadelphia: W. B. Saunders & Co., 925 Walnut street. Lewis S. Matthews & Co., 714 Pine street, St. Louis, Agents.

This is a book of detachable diet lists for albuminuria, anemia and debility, constipation, diabetes, diarrhœa, dyspepsia, fevers, gout or uric acid diathesis, obesity and tuberculosis. Also containing a sick-room dietary, the whole arranged for practical use.

**Practical Uranalysis and Urinary Diagnosis.** A Manual for the Use of Physicians, Surgeons, and Students. By CHARLES W. PURDY, LL. D.,

M. D., Queen's University; Fellow of the Royal College of Physicians and Surgeons, Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School; Author of "Bright's Disease and Allied Affections of the Kidney's;" also of "Diabetes: Its Causes, Symptoms, and Treatment." Fifth Revised and Enlarged Edition. With Numerous Illustrations, Including Photo-Engravings, Color Plates and Tables for Estimating Total Solids from Specific Gravity, Chlorides, Phosphates, Sulphates, Albumin, Reaction of Proteids, Sugar, etc., in Urine. Six by nine inches. Pages, xvi-406. Price, Extra Cloth, \$3 net. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street.

The fifth edition of this work consists of a carefully revised and improved work, much new and original matter having been added. Special emphasis is laid on the centrifugal analysis of the urine having now attained the position of a scientific process. This volume is entitled to rank as the best of its kind.

**A Manual of Otology.** By GORHAM BACON, A. M., M. D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by CLARENCE J. BLAKE, M. D., Professor of Otology in the Harvard Medical School, Boston. In one Handsome 12mo Volume of 422 Pages, with 114 Engravings and 3 Colored Plates. Price, Cloth, \$2.25 net. Philadelphia and New York: Lea Brothers & Co., Publishers.

The second edition of this practical work has much to commend it to the general practitioner and student. Considerable space is given the Schwartze-Stacke operation. The illustrations are more elaborate than in the first edition, a special addition being nine colored figures of the drum membrane in health and disease, as well as temperature charts and other valuable matter.

**Stimson's Operative Surgery.** A Manual of Operative Surgery. By LEWIS A. STIMSON, B. A., M. D., Professor of Surgery in Cornell University Medical College. New Fourth and Thoroughly Revised Edition. In one Royal 12mo Volume of 581 Pages with 293 Illustrations. Cloth, \$3.00 net. Philadelphia and New York: Lea Brothers & Company.

This work is well known, through its previous editions, as a concise and practical treatise on operative surgery. The author has carefully revised the present volume, making additions both to text-matter and illustrations.

**Rhinology, Laryngology and Otology and Their Significance in General Medicine.** By E. P. FRIEDRICH, M. D., Privatdocent at the University of Leipzig. Authorized Translation from the German. Edited by H. HOLBROOK CURTIS, M. D., Consulting Surgeon to the New York Nose and Throat Hospital, and to the Diphtheria and Scarlet Fever Hospitals. 1900. Philadelphia and London: W. B. Saunders & Co. L. S. Matthews & Co., 714 Pine street, St. Louis, Agents.

The author of this work shows not only a thorough knowledge of his specialty but a broad conception of general medicine—much more so, we may state, than is usually found in the writings on a special branch of medicine or surgery. Specialists and general practitioners alike will find this volume most valuable.



## MEDICAL TREATMENT.

**Typhoid Fever.**—Burt sums up the treatment of typhoid fever: "Put the patient to bed, as any other course is perilous. The mild cases will get well by themselves without any interference." Yet he does not advocate such an expectant plan. He is of the opinion that alcohol is used too freely, yet there are cases that require it. The actual tub-bath he thinks less advisable than the application of cold water otherwise. A sponge-bath, two-thirds water, one-third alcohol, will accomplish the desired results in most cases. He inclines to the belief that if the fever remains within bounds it is not of much importance if the pulse remains good and nervous symptoms are absent. If any intestinal antiseptics are to be tried he considers mild laxatives the best. Where the bowels move too frequent, more than three times a day, he uses large doses of bismuth and small doses of morphia; as supporting remedies he uses strychnia, ammonia, alcohol and bismuth. When the fever has left he leaves patient in bed until muscular system and heart is strong enough, and keeps up liquid diet ten days longer.

**Treatment of the Breasts.**—Broadhead advises nothing should be done to the breasts during pregnancy besides ordinary precautions for cleanliness, bathing each day with warm water and castile soap, and a little massage where the nipples are small. Alboline applied on sterile gauze over night is also advisable. With nursing women the nipples should be so covered between nursings, and should never be handled. If they become cracked nothing equals the application of a ten per cent. solution of silver nitrate, two to three applications usually producing a cure. After each nursing the nipples should be bathed with a solution of boric acid and the child's mouth treated in the same way. Where the patient does not nurse a tight breast-binder will be sufficient to dry up the milk; otherwise Rochelle salts should be administered freely and the amount of liquid limited. In very few cases will massage be necessary. In nursing women with oversecretion a little pressure may be needed, otherwise it should be avoided. In all cases the breasts should be supported to avoid caking, while Rochelle salts is good treatment for oversecretion. Abscess is rare with extreme cleanliness; where it occurs, massage should be used to express the pus through the nipples. Nursing should be stopped. If this fails, the abscess must be treated as abscesses of other parts of the body.

**Diphtheria.**—The injection of antitoxin in a strength relative to the severity of infection must be considered as the first paramount step in the successful treatment of diphtheria. Unless aggravated symptoms appear, no other treatment is necessary. Severe local treatment should only be instituted if any of the following conditions are present—otherwise a simple spray of listerine or hydrogen dioxid (Oakland), or a gargle of chlorate of potash or hydrogen dioxid, are all the local applications necessary:

1. Severe ulceration of the tonsils.
2. Post-nasal ulceration.
3. Gangrenous ulceration.
4. Stenosis.

In the first and second condition it is advisable to use the spray of hydrogen dioxid; the application of silver nitrate on the stick or in 1-500 solution, and the insufflation of calomel and sulphur; a solution of one-fiftieth grain of corrosive sublimate to a teaspoonful of essence of pepsin every two hours, administered per os, has had very good effect. The application of kerosene directly to the membrane may be of advantage, although it is very uncertain in its action in these cases.

In gangrenous sore throat with threatening stenosis these agents can be used to advantage, and the sublimation of calomel must be had recourse to. Twenty grains of calomel are placed upon an iron or tin dish and heated so that the steam arising from the dish finds its way under a cloth raised tent fashion over the patient's head. This sublimation should be repeated as often as mild symptoms of stenosis present themselves. If the cyanosis increases, the breathing gets laborious and stenosis seems imminent, intubation or tracheotomy should be performed. Intubation gives a much greater promise for good results than does tracheotomy, especially in children under two years old, as all or nearly all of the little sufferers succumb, either directly to the tracheotomy or later to broncho-pneumonia.

**Treatment of Gouty Eczema.**—(G. J. K. Martyn.)—The eczema associated with gout is one of the most irritating symptoms of the disease. The types of eczema met with in gout are, roughly: acute dry, acute moist, chronic, and what he terms latent. By the last he means the burning, itching sensation of the skin with nothing visible on the surface. The treatment consists in regulating the diet and the avoidance of everything that would produce dyspepsia, especially alcohol. Bismuth and the alkalies must be freely given for periods of three weeks at short intervals. To relieve the intense burning and itching, nothing is as valuable as a lotion containing carbolic acid. The clothing of the patient should be regulated so as to avoid extreme changes. It should allow of a thorough ventilation of the skin and absorption of all moisture. He recommends closely woven cotton underwear. The extremities must be well protected. The climate most suited to a cure is a warm, dry, equable, crisp climate. Articles of food to be avoided are, first and foremost, alcohol; then all forms of food, raw or cooked, which promote fermentation; all sugars or acid, strawberries, gooseberries, apples, lemons and rhubarb. All stimulating foods are to be avoided. The patient can easily judge which foods aggravate the trouble. Colchicum, lithia and piperazin have seldom any effect upon the trouble. In some cases morphia has to be given to produce sleep and allay the irritation. The use of laxatives or aperient water should not be forgotten. Arsenic has a very good effect upon the dry, scaly eczema. The local treatment is important. For the moist acute inflammatory types, lead and opium washes must be used; when the inflammation ceases, a dusting powder of carbonate of magnesia and fuller's earth is used. In the dry, irritating type nothing equals the liquor carbonis



detergents in a very weak solution or ointment. Warm baths frequently do good, although sometimes they irritate more and aggravate the trouble. Sulphur water and slaked lime added to the bath are beneficial. Daily sponging with sulphur water and a dusting powder after drying are of the greatest value.

**Treatment of Gonorrhœa in Women.**—It is questionable whether gonorrhœa in women can be cured before the etiological factor has undergone its cycle of development and decay, which usually takes six weeks. The disease can be held down and localized to the point of infection by drastic measures. The antiseptic douches, even if very strong, do not seem to be able to keep the infection out of the uterus and tubes, and cannot be relied on. Frequently it is through the douches that the disease spreads upward. The most radical procedure and use, which has met with considerable success, is to sponge out the vagina with bichloride sponges until all discharge has been removed. Following this, mop the vaginal wall and the cul-de-sac with sponges dipped in 1-1000 or 1-500 silver nitrate solution, remove the surplus of the solution and pack the vagina loosely with moist bichloride gauze. After the acute symptoms have subsided and the discharge becomes clearer, it is a good practice to use glycerin-ichthyol tampons, which are replaced every twenty-four hours. If douches are used, the best douche in females is the permanganate of potash with zinc sulphate. Very strong permangan solutions can be used—1-500—with the same strength zinc. Such a solution does not cause any discomfort; and as far as staining the clothes is concerned, the gonorrhœa is worse than stains.

**Asthma.**—Wells thinks that asthma, above all other diseases, requires strict individualization in its treatment, and regard must be had for complications. He concludes that it has many points in common with migraine, angina and epilepsy, depending as they do upon the vaso-motor theory of pathology, especially when we consider the disturbance essentially a contraction, not a dilatation. Asthma occurs in reflex neuroses from diseases of various organs, but especially those controlled by the vagus nerve. The nasal trouble which frequently leads to asthma may not be an obstruction, and may be hard to detect. Nearly all cases show the preponderance of a psychological element, as is evidenced in the capriciousness of the disease, the curious exciting causes, and its dependence upon emotional states. In the treatment individualization must be observed. The best remedies are those which overcome arterial spasm, such as morphin, nitroglycerin, chloral and atropine. The treatment between the attacks must be directed to—first, removing the cause; second, of raising the constitution by instituting sound hygienic and constitutional measures. The constitutional treatment is best followed out by drugs having a direct action upon the arterioles, as iodide of potash, the other iodides, and piperazin, or tonics and alkalies.

**Æstivo-Autumnal Fevers.**—They depend upon the presence in the blood of various groups of malarial parasites of a definite type, which undergo sporulation and segmentation without regularity, so that all stages of development

of the parasite can be found in the blood at all times. While the parasite may show a tendency to sporulate in definite groups at regular intervals, there are cases in which the arrangement, as to groups is lost and sporulation and segmentation goes on irregularly. This is most noticeable after the disease has lasted some days and the parasites have undergone several cycles of development. When we consider the relation of segmentation and sporulation to the manifestation of the disease, we can easily see the cause for the irregular picture the *æstivo-autumnal* fevers present. While the *æstivo-autumnal* fevers can be seen in very many types, we can speak of them as quotidian and tertian only, due to two distinct types of parasites. In each of these types the fever resembles closely that of the ordinary malarial fever, and yet the distinction is very marked. As a rule, the onset of the disease presents the same characteristics as the paroxysms of the tertian or quartan fevers. As the disease progresses there arise differences in each stage. The onset of the paroxysm is not as sudden, the fever more continued, the sweating stage not so pronounced. If in the regular tertian fever the paroxysm begins with the sudden chill, the rapid rise and defervescence of the temperature, in the *æstivo-autumnal* types the onset is more gradual, the chill commences only after the temperature has already risen considerably, and the fever lasts nearly twenty-four hours. The recurrence of the paroxysms do not occur as regularly as in the tertian or quartan type. Retardation and anticipation are frequent. If in a quotidian fever lasting twenty-four hours there is any anticipation of the recurrence, the period of interval must be very short, or indeed we get a subcutaneous fever, the temperature not reacting to normal before the new paroxysm begins.

In the tertian type the paroxysms follow each other at intervals—approximately forty-eight hours. The longer the interval between the paroxysms the longer does the paroxysms last, the febrile stage here frequently occupying thirty-six hours of the forty-eight. Retardation and anticipation of renewed paroxysms here confuse the picture of the type after the first few paroxysms, and we get the continuous malarial fever, or the so-called typho-malarial fever, the continued malarial fever being caused either by the anticipation of the renewed paroxysms or by a prolonged febrile stage.

The typho-malarial fever, so-called upon an entirely fallacious conception, is caused by the oscillation of the temperature in greatly prolonged paroxysms which render the picture quite incomprehensible.

A marked retardation of the paroxysms only occurs in case of spontaneous cure or a diminution in the strength of the infection. Yet it can also be seen in the pernicious type.

The general picture of the patient is usually one which is so similar to typhoid fever that an examination of the blood would differentiate the two diseases. Patients with *æstivo-autumnal* fevers, present the grayish-yellow hue of the skin and conjunctivæ, and frequently show herpes upon mouth and nose. Subjective symptoms are headache, vertigo, pains in back and limbs, nausea; diarrhœa is frequent, and the patient cannot retain food; drowsiness, increasing to coma, has been observed; delirium, at the height of the paroxysm, either low muttering or maniacal, of frequent occurrence.



The æstivo-autumnal fevers when left to themselves tend to recover, but frequently run into the pernicious forms, which prove fatal. Spontaneous recovery is much rarer in this type than in the regular intermittent fever, and relapses more frequent.

**Pelvic Peritonitis.**—An attack of pelvic peritonitis is characterized by the development of pain in the lower abdomen, usually sudden in development, very severe and lasting, in its highest severity, several hours; there is a temperature ranging up to  $102^{\circ}$ , vomiting and constipation. Usually it is accompanied by a distention of the intestines, either general or localized. Rigors are frequent only where the pelvic peritonitis is a part of a general infection of the peritoneum, either due to the bursting of a pyosalpinx or of a suppurating ovary. After the acute pain has subsided movement is usually painful, as is also cough, owing to the tenderness of the inflamed parts. Defecation and micturition are painful if the inflammation reaches the rectum or the bladder.

In subacute and chronic cases, pain in the back and inability to undergo physical exertion may be the only symptoms present. Menstruation usually becomes more profuse than natural, and is often accompanied by pain. Trifling causes lead to exacerbation, as overexertion or exposure.

These exacerbations point more directly to the presence of pus in the pelvis than does a temperature, as they occur most frequently and regularly in cases where the trouble is kept alive by the presence of suppuration. In severe cases attended with suppuration the patient becomes ill, emaciated and entirely incapacitated for exertion, or bedridden. The suffering of chronic cases of pelvic peritonitis depends greatly upon the demand made on the patient's activity.

During an acute attack the patient lies on her back with legs flexed and drawn up. Her abdomen is rigid; the rigidity is entirely involuntary. The abdomen exceedingly tender to the touch. Occasionally a definite swelling can be made out, but usually the distention obscures all symptoms. If the pelvic organs are above the brim of the true pelvis, or the inflammation is due to a suppurating ovarian cyst, or there is an exudate in front of the uterus, localized swellings can be made out on the abdominal walls.

Vaginal examination frequently gives no clue to a diagnosis as, on account of the great tenderness, the examination cannot be executed satisfactorily. We may feel a central bulging behind the uterus, which is due to encysted fluid in Douglas' pouch. Occasionally there is a bulging of the fornices, due to the inflamed tubes or ovaries.

As a rule, no definite swelling can be marked out until the acute symptoms have ceased, and then only by a careful bimanual examination conducted under chloroform narcosis. Under such favorable conditions the examination will reveal a fixed, irregular swelling behind and to the sides of the uterus. This mass is caused by increased connective tissue and a matting together of the ovaries and tubes. The uterus is, as a rule, not displaced, but may have been retroverted or anteverted primarily and become fixed in this position. Frequently there is a bulging serous, seropurulent or purulent exudate in Douglas' *cul-de-sac* which pushes the uterus forward and allows the fundus to be palpated through the abdom-

inal wall. Cases in which an exudate has taken place in Douglas' *cul-de-sac* complain of excruciating pain in the rectum which is aggravated by defecation.

**Meningococcus Pneumonia.**—We have frequently called attention to the specificity of the diplococcus *introcularis* of Werchsellbourn in epidemic cerebro-spinal meningitis. It is accepted now that it is the exciting factor in that disease. But rarely is it met with in other conditions. A recent case reported by J. Bernheim, of Zurich, in *Deutsch med. Wochenschrift* for October 6, is very interesting. He reports a fatal case of pneumonia crouposa fibrinosa in a child where the meningococcus was separated from the diseased lung. There were no meningeal pathologic conditions, and no cultures of this organism were obtained from the meninges. The organism found by Bernheim was assuredly the diplococcus *introcularis* meningitidis, so that there can be no question as to the possibility of its being a changed form of the pneumococcus. It has been quite conclusively demonstrated that the meningococcus has a predilection for setting up inflammation in a serous sac; most of the observations have been made on the line of its behavior on meningeal surfaces, so that the case reported by Bernheim is unusually interesting inasmuch as it demonstrates that the organism can cause such a process as a hepatization of a lung without producing primarily a meningitis.

**Thermol in Typhoid Fever.**—In the September 30th issue of the *Philadelphia Medical Journal*, Dr. Geo. B. Miller reports eight cases of typhoid fever which were treated with thermol, with the result that the fever ceased entirely at some time between the fifth to the ninth days, except in one of the cases, in which it lingered until the twelfth day, and in none was there a relapse. Thermol is one of the coal-tar products, and is, therefore, to be viewed with a certain amount of suspicion; but such results as those reported by Dr. Miller must compel the consideration of every conscientious physician. Dr. Miller claims that it is non-toxic, and that in a large experience with it in grippe, in pneumonia, and in typhoid fever, its influence has always been remarkably curative, and that he had not met with "an instance in which there was the slightest unfavorable impression upon the circulatory system, such as blueness of the face and extremities, cardiac distress, dizziness," etc. Physicians wishing to investigate thermol can receive a free quantity by addressing the Liberty Chemical Co., Philadelphia, Pa.

**In a case of diabetes** authenticated by a leading local practitioner the administration of arsenauro caused a complete cessation of glycosuria. The patient was under observation for three months, in which, under strict dietary rules and the administration of tonics, he excreted six pints of urine in twenty-four hours, showing three per cent. of sugar. He was then placed upon arsenauro, six drops, with daily increase of one drop. At fifteen drops the dose was again reduced to six, and later brought up to twenty-five. The daily amount of his urine is now three pints and no sugar, although his diet is more liberal. He is now allowed two ounces of bread at each meal. In this case arsenauro practically acted as a specific, and it would be interesting to hear some impartial reports on the trial of this drug by other practitioners.



## SURGICAL SUGGESTIONS.

**Diagnosis of Pyosalpinx.**—It is one of the most difficult feats in surgery to diagnose pyosalpinx of the right side from appendicitis. To overcome the difficulty the diagnosis is bunched and a positive diagnosis is reserved until the abdomen is opened. Frequently on operating for right-sided pyosalpinx the ovary and appendix are found matted together, and a secondary appendicitis presents itself. In cases where an operation is held in view from the beginning of the attack, it matters little what the diagnosis is; but quite different is the case where the diagnosis leads to temporizing. In pyosalpinx delay is justifiable; in appendicitis, rarely so. The diagnosis of pyosalpinx can be made on a history of gonorrhœa or abortion with continual discharge, menstrual disorders (especially frequent menstruation and the painful ovary). Bimanual examination frequently allows of outlining the abscess per vaginam and through the abdomen. Obstinate constipation is not necessarily one of the symptoms. In appendicitis the history shows a more sudden attack. Constipation is more frequent, the pain is more localized, there are no active symptoms given by the vagina and uterus. Bimanual examination reveals the normal ovary. The abscess tumor is more to right and higher.

**Dr. Simpson**, in a paper on suturing material, reports a curious case of a superficial stitch remaining in the perineum ten months without leading to any trouble, although exposed to the air and sexual contact. Mrs. T., primipara, was delivered of a girl baby January 1, 1900. The perineum being torn to the second degree, four stitches were placed in the vagina and three outside. Union took place and apparently all sutures removed on the eighth day. The patient made an uninterrupted recovery, and during the following eleven months was seen by him several times for minor complaints. On July the 8th and 10th for an acute gastritis. October 30th the patient presented herself and asked him to cut off the knot sticking out below; she had thought to ask him to do it before, but had not come to it. Examination revealed a small knot midway between the fourchette and the rectum, which allowed of being drawn up and revealed the silk. Clipping the knot a silk stitch one-half inch long was removed which had set there since January without leading to irritation or inconvenience.

**Chancroids.**—Amongst the laity and also among professional men there still exists the notion that chancroids are of only a few days' duration. This is erroneous. The prognosis is not quite as favorable. Not to speak of the unaccountable relapse of chancroid, the disease *per se*, under the most radical treatment, is a tedious one; and the patient can indeed be considered fortunate if cicatrization is complete in three weeks. Frequently medical men will make the statement that a sore on the penis lasting three weeks or longer is syphilitic. This of course is absurd, as chancroid may last for years by its auto-inoculability. Not considering the symptomatology and classification of chancroids, the disease must be considered a serious one in all its aspects, and should be treated radically from its incipiency. Unfortunately the physician does not see it early enough to abort it. When coming under the observation of the physician it usually presents several pea-sized ulcers with dark grayish base, appear-

ing like a false membrane. There is a thick, creamy, greenish discharge not ordinarily admixed with blood. The chancroidal poison has a tendency to eat downward and outward, so that the base may be situated deeply below the level of the epidermis. The poison is auto-inoculable, and maintains its virulence until complete cicatrization. Treatment must be instituted with the view of destroying completely all the poison present on the ulcer and on the surrounding surfaces. The latter is easily done by a thorough washing with soap, followed by a bath of bichloride or carbolic solution. In order to destroy the poison completely on the ulcer recourse must be taken to the cautery—either the actual cautery or chemical agents. Very few patients will submit to the actual cautery because of the dread of operative procedure. The only course left to the physician remains the cauterization by nitric or sulphuric acid; and in order to be efficient the application must be made thoroughly. After having cleaned the surface of the chancroid a strong solution of cocaine is applied by means of cotton pledgets. Following the cocainization a drop of carbolic acid is allowed to spread over the surface of the sore, and as soon as the white eschar has formed it is followed by a drop of nitric or sulphuric acid. This is allowed to act until a yellow eschar shows at the edges, when the sulphur of the acid is neutralized by soda bicarbonate or caustic potash. The sore is then either dressed dry, or, what has proven better, with a moist bichloride or carbolic pack. It takes about three days for the eschar to separate itself from the base, which is left in a healthy granulating condition, and takes about eight more days to cicatrize. During the healing process cauterization should be avoided unless there is a tendency to indolency, when the granulation can be lightly touched with carbolic acid or silver nitrate. The cauterization with silver nitrate during the active stage is harmful, as it does not penetrate deep enough and leads to a condition around the sore simulating induration.

**Spinal Anæsthesia.**—Coring, describing the technique of spinal anæsthesia, draws special attention to the antiseptic measures. He maintains that the outflow of cerebro-spinal fluid does not necessarily mean that the needle has entered the cord. This can be ascertained by measurements and by tentative injection of a small quantity of the anæsthetic. He cautions against the too liberal use of this method, and believes that deaths will be reported from its use by unskilled practitioners. He does not think that it will ever supplant the method of cerebral anæsthesia, but believes it will curtail its use somewhat. As a matter of fact Bier, who has claims at some skill in this method of anæsthesia, has reported four deaths, in which only small amounts of cocaine had been used. Considering the vital importance of the organ subjected to manipulation, it is obvious that the method will never become very popular. Even if the effects of the anæsthesia wears off completely immediately after its injection, we have as yet no experience whether the remote effects will not be such as to prohibit the employment of this method. Aside from the immediate inflammatory reaction it may lead to in the predisposed, it may also lead to sclerosis of a low, chronic type in the remote future. Besides, it opens up a new field for lawsuits for malpractice, which a certain class of patients will gladly make use of.



# FORMULÆ.

## Administration of Creosote in Wine.

- ℞ Creosoti .....  $m$  xxv  
 Tr. gentianæ .....  $\frac{3}{4}$  ss  
 Spts. vini rectificati .....  $\frac{3}{4}$  vj  
 Vini xerici .....  $\frac{3}{4}$  vj  
 M. Sig.—Tablespoonful t. i. d.

## Cough Mixture in Phthisis.

- ℞ Codeinæ ..... gr. iv  
 Acidi hydrochlor. ....  $m$  xxx  
 Spts. chloroformi .....  $\frac{3}{4}$  iss  
 Syr. limonis .....  $\frac{3}{4}$  j  
 Aqua dest. .... ad  $\frac{3}{4}$  iv  
 M. Sig.—One teaspoonful as needed.—  
*Morrell.*

OR

- ℞ Acidi hydrocyanici dil.,  
 Tr. belladonnæ ..... aa xxxiv  
 Ext. opii, liquidii ..... lxiv  
 Syrupi limonis .....  $\frac{3}{4}$  ss  
 Mucil. acaciæ ..... ad  $\frac{3}{4}$  iss  
 M. ft. syrup. Sig.—One teaspoonful and  
 repeat in three hours.—*Manual of Med. Tr.*

## Administration of Guaiacol.

- ℞ Guaiacol carbonatis ..... gr. xv  
 Strychnia sulph. .... gr. j  
 Resinæ capsici ..... gr. iij  
 Ammonii chloridi,  
 Quiniae bisulph. .... aa gr. xxx  
 M. ft. in capsule No. xxx. Sig.—One  
 every four hours.

## Hæmorrhage of Lungs.

- ℞ Acidi sulphurici arom. .... gtt. xxx  
 Sig.—Every three hours until bleeding  
 has ceased.—*Simpson.*

## Gastric Inflammation.

- ℞ Tr. nux. vom. ....  $\frac{3}{4}$  ij  
 Ext. cascariæ sagradi .....  $\frac{3}{4}$  iss  
 Glycerini ..... q. s. ad  $\frac{3}{4}$  iij  
 M. Sig.—Teaspoonful at bedtime.—  
*Gould.*

OR

- ℞ Acidi carbolici ..... gtt. xv  
 Ess. of pepsin (Fairch.) .....  $\frac{3}{4}$  ij  
 M. Sig.—Teaspoonful every four hours.  
 —*Simpson.*

## Dyspepsia with Sour Eructation.

- ℞ Bismuth subnitrate .....  $\frac{5}{8}$  iv  
 Mucil. acaciæ .....  $\frac{3}{4}$  j  
 Sodii bicarb. ....  $\frac{3}{4}$  iv  
 Infusi calumbas. q. s. ad  $\frac{3}{4}$  viij  
 M. Sig.—Shake — tablespoonful after  
 meals.

## Eructation of Gas.

- ℞ Pesin (scales) ..... gr. iij  
 Bismuth subnit. .... gr. x  
 Strychnia sulph. .... gr.  $\frac{1}{100}$   
 Thymol ..... gr.  $\frac{1}{4}$   
 M. ft. chart. No. i. Sig.—After each  
 meal.

## Gastralgia.

- ℞ Codeinæ sulph. .... gr. iv  
 Antipyrini ..... gr. xl  
 Tr. belladonnæ .....  $m$  xl  
 Elix. simplex .....  $\frac{3}{4}$  iij  
 Aqua menthæ pip. q. s. ad  $\frac{3}{4}$  iv  
 M. Sig.—Teaspoonful every three or  
 four hours until relieved.

## Flatulent Dyspepsia.

- ℞ Aqua chloroformi,  
 Aqua destil.,  
 Aqua menthæ pip. .... aa  $\frac{3}{4}$  ij  
 M. Sig.—Teaspoonful before meals.

## Loss of Appetite.

- ℞ Tr. nuc. vomice .....  $\frac{3}{4}$  ij  
 Tr. cinchonæ comp.,  
 Tr. cardamoni comp. .... aa  $\frac{3}{4}$  j  
 Tr. gentianæ comp., q. s. ad  $\frac{3}{4}$  iv  
 M. Sig.—One teaspoonful in water  
 before meals.

## Vomiting.

- ℞ Bismuth subnitratis ..... gr. x  
 Tr. opii .....  $m$  ij  
 Magnesiae carbonate ..... gr. v  
 Misturæ tragacanthæ .....  $\frac{3}{4}$  ij  
 Infusi aurantii ..... q. s. ad  $\frac{3}{4}$  j  
 M. Sig.—Shake—at one dose.—*Yeo.*

## Tonic for Anæmia.

- ℞ Ferri sulph. exsic .....  $\frac{5}{8}$  j  
 Sodii carbonatis exsic .....  $\frac{3}{4}$  j  
 Acidi arsenosi ..... gr. j  
 M. ft. in capsule No. xxx. Sig.—One  
 after meals t. i. d.

## Fever of Phthisis.

- ℞ Quinia sulph. .... gr. xxiv  
 Pulv. digitalis ..... gr. xij  
 Pulv. ipecacuanbæ,  
 Pulv. opii ..... aa gr. vj  
 Extract glycyrrhizæ, q. s.  
 M. ft. in pill No. xxiv. Sig.—One every  
 four hours.—*Heim, Man. of Ther.*

## NEW REMEDIES.

**Cystogen.**—Among the new remedies which have come from the laboratory of the scientific pharmacist during the last five years of great strides in the improvement of the pharmacopeia, cystogen has already gained a place of recognized permanence.

Cystogen occurs in the form of white crystals freely soluble in water and of a slightly sweet, pungent taste. The chemical formula is  $C_6H_{12}N_4$ . The dosage is five grains from three to five times daily. To avoid any gastric irritation it is advisable to administer the remedy after meals, dissolved in half a glass of water, and in this way it can be given for a long period without causing irritation. Experiments show the presence of free formaldehyde in the urine within one hour after administration, and it is but reasonable to suppose that the urine is a dilute solution of formaldehyde, the cystogen molecules presumably being broken up in passing through the kidneys.

The prime value of cystogen is in the treatment of septic conditions along the genito-urinary tract. The problem of dealing with this kind of pathologic conditions has been a difficult one, by reason of the remoteness of the parts from the application of drugs. In the main, the difficulty has been to find a drug which is eliminated through the kidneys and yet preserves its efficiency as a medicament after this long a passage through the blood.

In cases of cystitis from every known cause, cystogen will be found to be of almost immediate service in clearing up the condition. In states of phosphaturia it is a capable agent, and brings about rapid amelioration of the trouble. Because of its excellent eliminative powers it is indicated in all the diatheses—lithemic, gouty, phosphatic, and uric acid. It causes a rapid diminution in abnormal crystal formations in the urine. It increases the secretion of urine, and thereby brings about such good effects as are to be expected from the use of a good diuretic.

The following cases are from the private records of several prominent St. Louis physicians, who give impartial reports of their experience with cystogen in private practice:

CASE 1.—Female, age thirty-seven, married eighteen years; one child, age thirteen. History as follows: Eleven years ago, while spending the summer with relatives upon a farm in Missouri, acquired a case of cystitis from drinking water from a mineral spring. At that time was pregnant. She recovered from the cystitis soon, but on account of the prolonged labor which she underwent the bladder and urethra were greatly bruised, and she also sustained an almost complete rupture of the perineum, which, in time, gave rise to a cystocoe of very pronounced proportions.

I first saw this case in September, 1899, and she told that her urine constantly dribbled from her, compelling her to wear a napkin all of the time. She had to get up from eight to twenty times each night to empty her bladder. Upon examination I found quite a large cystocoe extending out of the mouth of the vagina, the opening of the urethra very red, with protruding portions of the mucous membrane very red and much swollen, labia and inside of thighs excoriated and very tender and painful to the touch, perineum torn almost through to the rectum. Cystoscope showed pronounced chronic cystitis, bladder walls much thickened and corrugated.

I reduced the cystocoe and performed perineorrhaphy, leaving an opening into the vagina only about three-fourths of an inch in extent; had the bladder irrigated every eight hours. She made very good progress toward recovery, and about November 20th I abandoned the irrigation and put her upon cystogen, one tablet dissolved in a full glass of



water four times a day. Her condition is now greatly improved. She does not have to get up at all at night, and her urine is clear and free from mucus and pus. She is not compelled to wear the napkin at all now, but frequently does so, especially when she goes away from home to be gone any length of time; has not dribbled since she has been taking cystogen, and says she feels like another person.

CASE 2.—Male, age sixty-three. After careful examination, found paralysis of left side, involving the bowels and bladder. He had no control over his bowels, fecal matter passed involuntarily, with complete retention of urine, which had to be drawn four or five times a day with catheter. When drawn, urine was very cloudy and ammoniacal. Prostate gland very much enlarged and painful. Patient was semi-conscious.

From conversations I had on cystogen, and merits claimed for it, I concluded here was a typical case for its use. I ordered five-grain tablets to be dissolved in glass two-thirds full of water, to be taken four times a day. After twenty-four hours I found my patient much improved, passing urine naturally and freely. Had complete control of the bowels, and little or no pain on prostate region. Ordered cystogen to be given less frequently. He continued to improve for ten days; December 17th became worse; ordered cystogen to be given every three hours, believing, from previous experience with the product, it would have satisfactory results. I think much of cystogen for conditions above named.

CASE 3.—Patient gave a history of obstinate gonorrhea during which he had been under the care of three different physicians, the urethra had evidently been very thoroughly treated anteriorly, but the posterior urethra and the bladder I found in a deplorable condition, the urine was loaded with the products of the vesical and prostatic inflammation and the patient was well-nigh frantic as a result of the irritation. I at once inaugurated a system of vesical irrigation and put him on cystogen, twenty-five grains daily. Relief quickly followed, the bladder symptoms disappearing as soon as he was thoroughly under the influence of the cystogen. Recovery was uneventful. During the latter days of the case I gradually decreased the amount of cystogen, giving twenty, fifteen and finally ten grains daily, continuing the last amount some days after I discontinued other treatment. The patient was discharged at the end of a month.

CASE 4.—Patient presented a typical picture of lithemia, urine was highly ammoniacal and loaded with ammonium urates and uric acid, subjective symptoms almost entirely urinary and there being much vesical irritation. Cystogen gr. twenty-five daily speedily relieved this and under its influence the urine was freed of the excess of urates. The treatment was evidently suspended too soon, as a relapse followed after it was stopped; a renewal of the cystogen gave prompt relief, and as a result of the experience we continued the remedy, though in smaller doses for some weeks.

CASE 5.—Male, age four, complained of incontinence of urine, both nocturnal and diurnal. He would frequently urinate in his pants during the day and always wet the bed at night. Prescribed cystogen in one and one quarter grain doses (one-quarter tablet) three times a day, and after three or four days the incontinence was relieved.

CASE 6.—Female, age twenty nine, presented herself for treatment of cystitis. She had great frequency of urination, followed by severe pain, especially at night. She was urinating from five to six times in a night and more frequently during the day. Examination of the urine showed it to be normal except for excessive amount of mucus. Cystogen in thirty gr. doses per diem. After two or three days' treatment she was so far relieved that she could sleep all night without urinating.

**Tyree's Antiseptic Powder.**—Many good reports are heard of the employment of Tyree's antiseptic powder in the treatment of leucorrhœa and gonorrhœa. The New York *Polyclinic* comments on this preparation as follows: "We believe that, as a rule, leucorrhœa is not well treated, therefore we make no apology for alluding to the treatment of so common an affection. Unless the vaginal flow be of intra-uterine origin, we know of no other means so simple and yet so effectual as the use of pulv. antiseptic comp., Tyree's. It is in every way preferable to all the usual remedies used, many of which stain and are otherwise objectionable. The quality of endorsements given to this preparation are such as to stamp it as an article of unquestionable merit for the various forms of leucorrhœa." Those of our readers unfamiliar with this preparation can receive enough to make two gallons of solution by sending ten cents to J. S. Tyree, Washington, D. C. Enough to make two gallons solution sent *once only* for ten cents, prepaid.

**Digitalis Fluid (H. & F.).**—The Hoeffkin-Finke Laboratory, of St. Louis, deserves the patronage of the profession on their special fluid digitalis. It is the official infusion in *concentrated form*, being five times the strength of the official product. This firm will send any reader of the INTERSTATE a quantity sufficient for trial purposes free on application.

**J. F. Hayes' Acid Hypophosphites.**—The presence of free phosphorus makes this preparation particularly valuable in those cases indicating the administration of a *nerve food*. The absence of sugar in this product is said to make it less liable to disturb the stomach. Our readers may learn more by addressing J. F. Hayes Pharmaceutical Co., Philadelphia, Pa.

**The Oxygen Purifying Ball.**—This convenient purifier and disinfectant is made of a combination of formaldehyde, oil of eucalyptus, thymol, and other recognized disinfectants. Naphtholine is used as a carrier for the more active agents. The ball is best used suspended by a string or wire so as to allow full contact with air. The generation of formaldehyde gas, as well as the action of the other drugs, from the ball deodorizes and disinfects the air of the sick-room, or such other places as may need purifying. This is the most convenient form in which to use formaldehyde in the house.

**Abbott's Saline Laxative in Surgical Practice.**—Several of our surgeon friends are using the above chemically pure magnesium sulphate preparation for cleansing the bowel before operation. The customary broken doses of calomel being given during the day preceding the surgical interference, and followed (from six to eight hours before the operation) by Abbott's saline laxative, gives the best result. This method of treatment also insures the patient against intestinal toxemia.

**Loasa.**—Attention is directed to the advertisement under this heading. It is one of the new remedies introduced by the Pacific Coast Medicine Co., a firm of chemists that for a number of years has directed its energies mainly to the investigation of Pacific coast plant-life, with a view of wresting from the bosom of this comparatively unexplored region the therapeutic secrets it is believed to hold. Some surprising discoveries are claimed to have been made, and their practical applications in disease were verified by an ample hospital and private clinical experience. From what we can gather concerning some of these preparations we should say that they have certainly come to stay.

**The Salicylic Acid of Tongaline.**—Salicylic acid when first used medicinally was derived mainly from salicin, found in the bark and leaves of the willow, and some species of the poplar. Later a more refined product was obtained from the natural salicylates in the oils of wintergreen and other varieties of gaultheria. The expense of the natural product being considerable, the synthetic chemist soon found that a product could be derived from benzine which would answer the same chemical formula, and could be marketed at a fractional cost of the natural product. The synthetic compound is considered very inferior therapeutically, and by many emi-



nent authorities has been declared unfit for medicinal purposes. Investigation shows that many physicians fail to specify the natural product in prescribing salicylic acid, and that even when they do so but few druggists comply with the demands of the prescription. The writer ventures the statement that not one drug store in fifty has any of the natural salicylic acid in stock. Naturally, the result expected from the treatment is not observed, and the physician's reputation suffers thereby.

We are assured by the Mellier Drug Company that all the salicylic acid used in tongaline is derived from the pure oil of wintergreen. The therapeutic activity of tongaline certainly bears out this statement, and we commend the preparation to our readers as one that will give happy results in the treatment of their rheumatic cases.

**De Puy's Adjustable Fiber Splints.**—These splints are made of a fiber that has been saturated in a compound rendering them firm and non-pliable at ordinary temperature. Should the surgeon desire to change the shape in adjusting one of the splints, it can be done by holding it over a hot stove for a few minutes or by immersing in hot water, when it will become perfectly pliable and can be made to conform to any desired shape, both laterally and longitudinally. A few of the advantages of these splints are the following: Because of the rough exterior they do not slip under the bandage; not being sufficiently porous to absorb septic material, they can be easily sterilized; are impervious to moisture; these splints do not interfere with X-ray examination of the fractured part. A full set of Du Puy's splints, consisting of forty-five pieces, will be sent to any of our readers for \$15. Address, Geo. L. Warren Co., Niles, Mich.

**Truax's Nebulizer.**—The well-known firm of Truax, Greene & Co., of Chicago, are now manufacturing an improved and perfected nebulizer for treatment of respiratory and aural affections. It permits the use of both nebula and compressed air at the same time, and several patients can be treated simultaneously, if desired. Many new features are involved, and we advise our readers interested in these instruments to correspond with the above firm.

**Merritt's Antiseptic Wool.**—The wool prepared by Geo. Merritt & Co., of Indianapolis, for use of the profession, is first scoured with a strong alkali and then placed in a sterilizer, where it is raised to a temperature of 250° F., making it perfectly aseptic. The addition of antiseptic oils makes the wool antiseptic, and it can be used with perfect safety in all cases.

Antiseptic prepared wool, covered with oiled silk, makes a very desirable dressing where dry heat is desired. Pneumonia cases will benefit by having loose jacket of oiled silk lined with this wool. Three-ounce carton sent on receipt of fifty cents; seven ounces, \$1.

**Stearns' "Special" Diphtheritic Antitoxin.**—This company is putting up antitoxin in a new and improved form of package consisting of three parts: a glass bulb of antitoxin with hermetically sealed ends, which are to be broken off at the file marks, a rubber bulb for ejection, to be attached to one end of the glass bulb, and a hypodermic needle to be attached to the other end, making, when placed together, a complete hypodermic outfit, sterilized and ready for use. Note advertisement elsewhere.

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### MORE WORK ON GASEOUS GANGRENE.

We have had occasion to refer previously in terms of praise to the excellent work of Welch on the bacillus *æreogenes capsulatus*, as described in his recent Shattuck lecture, published in the *Philadelphia Medical Journal* for August 4, 1900. The work illustrates the morbid conditions which are provoked by this micro-organism, first described by Welch and Nuttall in 1892. In brief, the bacillus *ærogenes capsulatus* can cause gaseous gangrene; it may cause the so-called "*schaumorgane*" of the Germans, the condition found *post-mortem* with gaseous infiltration of all the organs; it may also cause infections of the uterus and urinary tract, pneumoperitonitis, with or without perforation, hepatic and biliary infections, and interstitial emphysema of the gastro-intestinal, meningeal and pulmonary or pleural surfaces.

A new contribution to the interesting subject is that by G. Muscatello (*Muenchner med. Wochenschrift*, No. 38). It will be remembered that it was Muscatello who was enough in touch with American medical literature to know that Welch had described the bacillus *æreogenes capsulatus*, so that when he came to study the three cases of gaseous gangrene which he reports, he was able to identify this organism in the cases in question. The first of the three cases was that of a young man who had suffered a stab wound of the shoulder, and who developed gaseous gangrene, necessitating amputation. A second case was that of emphysematous gangrene developing in a fractured lower extremity, in which amputation above the knee was performed; and the third case was the occurrence of the same condition in a thigh which had been treated for aneurisma arterio-venosum



traumaticum by ligature of the popliteal artery. Amputation was also here performed. In these three cases the bacillus *æreogenes capsulatus* of Welch was demonstrated. Another case is reported where other bacteria were found, but not the bacillus *æreogenes capsulatus*.

The conclusions of Muscatello are as follows: (1) Emphysematous gangrene can be caused by a variety of organisms. (2) Where there is a mixed infection with the bacillus *æreogenes capsulatus* and other organisms, as was the case in two instances, there is more inflammation than when there is but one etiologic factor present—*i. e.*, the bacillus *æreogenes capsulatus*. (3) Although the disease emphysematous is a severe infectious process, still the prognosis should not be taken to be as grave as it was formerly thought to be. Just as Welch stated in his Shattuck lecture, Muscatello says that while the bacillus *æreogenes capsulatus* is not the specific cause of emphysematous gangrene, still it is the cause of most cases; that it is a gas-producing organism which, when having invaded the human body, can become a toxic saprophyte and produce deep local disturbances in bodily tissue.

### THE TREATMENT OF RHEUMATISM IN CHILDREN.

The treatment of rheumatism in children is a subject deserving the serious attention of the clinical pediatricist, inasmuch as it is a relatively common disease of childhood, and, furthermore, is an important one, too, when we consider that eighty per cent. of the children who are the subjects of rheumatism become affected with endocarditis. For the adult we recognize the superior value of sodium salicylate in the treatment of rheumatism, and we also use it for the child when it is affected with this same disease. The serious objection to the use of sodium salicylate in children is the fact that it usually produced gastritis in these little patients, and so its prime value as a reliable medicament is greatly depreciated. The production of any form of gastro-intestinal derangement by a drug which is to be used for children is *prima facie* evidence that it should not be used. Our constant endeavor should be to avoid "remedies which are worse than the disease." The use of antipyrin for the treatment of rheumatic diseases of children seems to offset the loss of sodium salicylate as an anti-rheumatic in children. The dosage of the drug is as follows: Make up a solution of antipyrin, 3 grammes to 100 parts of water; of this give a dessertspoonful three times daily. Aspirin is also a promising drug for infants and children affected with rheumatism. In addition to this drug treatment, children should be kept in bed at least eight days after the fever has disappeared.

### KRUSE'S BACILLUS DYSENTERICUS.

At the recent *Versammlung deutscher Naturforscher und Aerzte*, at Aachen, Prof. W. Kruse, of Bonn, read a paper on the subject of "Dysentery as an Epidemic Disease," in connection with observations on the cause, Kruse's ruhrbacillus, or dysentery bacillus. It is a fact that, while in cases of dysentery asiatica, as a rule, the *amœba coli* is found as the causative agency, in the epidemics in Germany this is seldom the case, and this was found to be especially true in the epidemic studied by Redner

in Laar in the year 1900. In most of the cases studied by Kruse he found in the purulent particles in the stools numerous short rods. These bacilli grew on inoculated gelatin in twenty-four hours as a luxuriant colony. These bacilli produced *no gas*, thereby establishing their non-identity with the colon bacillus, which they somewhat resemble from a morphologic standpoint. Just as is the case with the bacilli of typhoid fever and Asiatic cholera, these bacilli produced no pathogenic effects in animals. The blood of dysenteric patients agglutinated the dysentery bacilli. Out of eight cases which came to post-mortem, Kruse was able to find the bacillus in the intestinal ulcers in but one case. It is natural to expect this result, inasmuch as dysenteric patients, as a rule, only succumb in the third week of the disease, after nearly all local manifestations have disappeared, together with the bacilli. In the one case in which the bacillus was demonstrated in the ulcer, there had been a fresh eruption of ulceration and diphtheritic membranous formation just prior to death.

These results of Kruse's are certainly interesting, and throw a good deal of light on the subject of epidemic dysentery. The writer has expressed doubt some time previously to the role played by the amœba coli in many cases of dysentery, and now these results endeavor to show the same thing. Too much stress has been laid on the amœba coli as a causative factor in dysentery, without a doubt. Instances are numerous and authoritative wherein this amœba has been found in healthy intestines. Why it has been so universally accepted as the specific agent passes all comprehension. Kruse's work is certainly entitled to considerable thought, and calls for further research along this much-traveled line of work. As we know, Shiga, the Japanese bacteriologist, has published excellent work with tropical dysentery, and it seems that his bacillus is entitled to considerable recognition as the cause of tropical dysentery. Now comes Kruse with his bacillus of what we might be permitted to call the "German" type of tropical dysentery. Whether it is the same micro-organism, or a member of the same species, remains to be seen. Certainly, the work of both will be placed side by side and results compared. We await further experimentation.

G.

#### WHY IS NOT AMERICAN MEDICAL RESEARCH RECOGNIZED ABROAD?

Why is not American medical research, American medical progress and reliability recognized abroad? This is a theme which the writer has asked himself more than once since he set first foot on European soil, and it is asked here again in tones of just indignation. The writer has brushed up against the laboratory workers of Germany, and the clinicians as well, so that it is thought that he is in a position to properly discuss this subject, having also had the opportunity to know something of what is being done in America by similar workers. It is a matter of fact that the German, with all his scientific instincts, is utterly lacking in one essential quality of the scientist: the fairness and squareness to keep in touch with everything that is done in science the world over, and to recognize merit in all, no matter under what flag he may be. He absolutely cannot be brought to believe that American is capable of producing scientific work. He has a lurid idea that the whole occupation of the American medical man is to rake in the dollars, and that there are none of us possessed of what



might be called scientific aims and purposes. Far be it from the writer to deny that the scientific work in American medicine is carried on to such a degree as it is here on the continent, but it is also a fact that there is much of worth done in American research lines, and it is also a matter of rebuke to the Europeans that they do not take the trouble to recognize or even try to acquaint themselves with what we are doing at home. Instances are numerous where priority of discovery is totally disregarded (particularly by the Germans) of anything American. Welch, in his recent "Shattuck Lecture on the Morbid Conditions Caused by the *Bacillus Æreogenus Capsulatus*," refers to the ignorance of several European investigators who described organisms in gaseous gangrene as being new discoveries, which were nothing but Welch's and Nuttall's organism, which these men had probably never heard of, so wrapped up were they in their continental knowledge, with scarce a thought of what had been done across the Atlantic. Again, we might mention Baginsky's work which recently appeared on a streptococcus which he found in scarlet fever. In his review of the previous literature along this line, he utterly ignored the work of Class, Gradwohl, and others, who have approached nearer to a scientific elucidation of the cause of this disease than have any of the men whom Baginsky takes pains to mention, and who, of course, are all Europeans. Many other instances are to be found. The Germans take no interest in American work, and concede nothing to us. They keep a sharp eye on their French neighbors, and don't fail to pull them to pieces at every opportunity. But their policy is to ignore the American medical men entirely. Who has seen a German surgeon and can compare his technique to our skillful operators at home? While our American surgeons may not all possess the diagnostic acumen of the German, he so far surpasses him as a surgeon that the comparison is almost absurd. And it can also be asserted that there are original workers in American medicine who can proudly hold up their heads among these workers abroad. We are quick to give full credit to them for all their admirable work. Why should they not do the same thing by us? We are supposed to be perfectly conversant with all medical literature. Why should they not read ours? It is time that the American should take his place in the world of science in medicine, as well as in all other scientific branches. The rebuke that is here given is not dictated by feelings of sentiment, but is intended as a plea for justice. There is no "spread-eagle" affair in the matter; it is simply an exposition of facts and a demand for fair-play.

#### TRAUMATIC HYSTERIA.

One of the most pitiable conditions with which the neurologist has to deal is that form of hysteria which we recognize as "traumatic hysteria." It is nowadays common, quite common. We see it on every hand; we hear of it very often. The laity discuss it in tones of awe and commiseration. Most commonly they mistake it for a serious injury to the brain, a local disturbance, instead of a pronounced neurotic disorder. Traumatic hysteria is that form of hysteria which is seen in people who have been the victims of some one kind of accident or another wherein a great fright or fear has intruded. It is seldom, if ever, due to a real injury of nervous

tissue by mechanical force. In every case we can trace the element of fear or anxiety which precedes, accompanies or follows the receipt of a traumatism as the etiologic factor in the production of traumatic hysteria. We hear of a man who has been knocked on the head by a highwayman; he is probably stunned, probably has a scalp wound, but has no fracture, no concussion of serious import; in short, had he lived fifty or a hundred years ago and had been so maltreated, he would have thought nothing of it, but would have stayed out of bed and gone about his business the next day without a thought of the extent of his injury. But the man of to-day who receives this injury is frightened, and is demoralized through fear. He recovers from his scalp wound, but complains that he is not himself; that "there's something wrong" in his head. He broods over it; he cannot sleep; his family are well-nigh beside themselves with compassion for his supposed "intra-cranial" derangement, and their compassion makes his condition worse. This is a true picture of the traumatic hysteric—the man who receives his neurosis through the kindly offices of the thug; the man who, in most cases, would possibly have been better served had he been killed outright by the highwayman, instead of being allowed to live to be "sympathized with to death" by his relatives and friends.

We say that the condition is common. It would be well and proper to state that it is frightfully common. We may explain its frequency in several ways: First, by reason of the fact that accidents of divers order are more common now than they ever were, and that the danger to life and limb through modern invention, modern machinery for the application of mechanical principles to heat, power, etc., are more in evidence than they ever were, and that, consequently, life is not half so valuable as it was, reasoning from the standpoint of avoidance of injuries. Secondly, we know that the present generation is extremely neurotic, that neuroses of all kinds are rife with us, and that they are difficult to lose. The strongest and the hardiest of our race may pride themselves on their physical strength, but they are the class who, when once the subject of a neurotic malady, as they often become, are the worst sufferers therefrom.

We can always trace the element of fear or anxiety that accompanies these accidents as the active factor. Consequently, in the treatment of traumatic hysteria, it must be our constant aim to make our patients "forget." Until we can bring them to that state, therapeutic efforts amount to practically nothing. They must be treated as we treat all hysterics—by suggestion. And their medicaments must be given to them in the self-same way—*i. e.*, in a suggestive way—so that they may be led to believe that something is really being done for them. Such cases, under proper treatment and conditions, are promising ones. The greatest care, the greatest amount of tact, of skill, of patience, and of strict adherence to "hysteric" methods of treatment, however, must be enforced.

### THYROIDIN IN PSORIASIS.

Possibly the most empirical remedy that was ever used in the treatment of a disease is thyroidin extract in psoriasis vulgaris. It has been used with diligence by some of the German authorities, and the results with it have been surprisingly good. The latest advocate of its use in psoriasis is Ewald, who reports a case where marked benefit ensued on the



administration of thyroidin extract. Unfortunately, the value of Ewald's case as a token of good is lost because of the fact that he also prescribed arsenic for his case, even while it was under thyroidin medication; so it is a matter of impossibility to state positively that the good results obtained were due to the thyroidin alone, to the arsenic alone, or to a combination of the two. The writer has seen one case in a child where thyroidin was used conscientiously and with rather good results. The drug certainly deserves assiduous trial in this obstinate disease. It will certainly be an epoch-maker if it does well in the treatment of psoriasis. We will be content to take it "and ask no questions" as to its manner of action, if it is successful. For that matter, who cares a whit for the rationale of action in the initial stage of therapeutics of this kind, provided results are forthcoming? Explanations will follow later if permanent results are obtainable. So we invite trials of thyroidin in psoriasis.

### NECTRIANIN.

In the assumption that carcinoma is due to the work of the parasite of vegetable order, the *nectria ditinima*, some work has been done by Bra and Margour in the direction of treating cases of carcinoma with nectrianin, a product of the *nectria ditinima*. The results of treatment of cases of this disease with this product are published in the *Rev. Med.*, 28. We quote them for what they are worth. The carcinomatous patients were treated with subcutaneous injections of nectrianin. They reacted with rise in temperature, acceleration of the pulse, headache, etc., while healthy patients treated in the same way did not so react. Five ccm. of the material were injected at a time. In fourteen cases of inoperable carcinoma of the uterus, one case of carcinoma ventriculi, and one case of epithelioma of the face, these injections were instituted, and with the result that there was a cessation of the hemorrhages and purulent discharges, softening of the tumor-mass, and a stoppage of the growth. When the treatment was discontinued the symptoms returned. The cachexia, however, was not improved, and all of these patients succumbed to the carcinomatous disease. It is recommended by these authors that nectrianin be used for the treatment of the local symptoms, where morphine is ordinarily used.

The results obtained in these cases with this product are certainly deserving of trial at the hands of those whose lot it is to treat cases of inoperable carcinomata. While we do not incline as yet to the parasitic etiology of carcinoma, yet we cannot withhold recommendation of nectrianin even as an empirical remedy. Whether other observers obtain the results which Bra and Margour have obtained is a question, of course, that can only be answered by actual test.

### OIDIUM AND OIDIOMYKOSIS.

A very instructive paper is that by Cao-Cagliari, which recently appeared in the *Zeitschrift fuer Hygiene und Infektionskrankheiten*, Band xxxiv., Heft 2. The author interested himself in the study of *oidium albicans*, and reached some conclusions of worth as a result of his work. In the first place, he states that he studied forty-one varieties of the *oidium*,

and studied their form, their biologic characteristics and their pathogenicity in full. The oidium as a species stands between the blastomycetes and the hypomycetes, partaking as it does of the large plant organs of the one kind, and the mycelia of the other order. This, of course, is a fact that has been repeatedly pointed out by other observers.

The particular part of the work of this author that we wish to call attention to is his statement of the pathogenicity of the oidium. He says that it is capable of producing three varieties of pathologic-anatomic conditions. These three types are what he designates as (1) pyogenic, (2) granuloma, and (3) toxic typhus. It is a new addition to our knowledge on the subject, and takes us into a new field of activity of this organism. The work is important inasmuch as some have denied the pathogenicity of the *oidium albicans*, for example, in the disease thrush. Many assert that the *saccharomycetes albicans* is really the agent at work in this disease, and not the *oidium albicans* at all.

#### POST-MORTEM FINDING IN ACROMEGALIA.

E. Mendel, of Berlin, reports a very interesting post-mortem finding in a case of acromegalia. The case was a young woman of twenty-five years who gave clinically a very pretty picture of acromegalia. Besides the enlargement of the hands, feet, jaws, orbital ridges, etc., she showed a temporalis hemianopsia, and a swelling of the lymphatic glands; there was no patellar reflex, and there was a cessatio mensium from the beginning of the disease. The clinical diagnosis of swelling or tumor of the hypophysis was made and hypophysis tissue given as a medicament, but without improvement. She died after having had repeated attacks of vomiting and headaches. Obduction revealed a tumor in the region of the chiasma optica. The tumor filled up the ventriculum tertium, and partly encroached upon the ventriculum lateralis. It also entered the caput nuclei caudati, the thalami optici, and the white matter of the orbital region. Besides this finding in the skull, there was also an enlargement of the glandula thyroidea, the glandula thymus, and the spleen. The mammae were abnormally large. Microscopic examination of the tumor showed it to be a large, round-celled sarcoma, with a partial myxomatous degeneration.

The question which arose in Mendel's mind in respect to this case was as follows: Was the acromegalia the primary disease, as Marie and others have contended, or were these symptoms a consequence of hypophysis affection? He seems to doubt the possibility of the acromegalia being the primary disease, but inclines to the view that the acromegalia was the result of a systemic affection of the body which ensued from a general poisoning in which the hypophysis was implicated. In other words, it seems that the view held by Marie and others that acromegalia is a result of affection of the hypophysis cerebri cannot be sustained in such a case as this. The fact that just as often as affection of the hypophysis is found, so is affection of the spleen, of the lymphatics, of the persistence of the thymus gland, makes us see the rationale of Mendel's stand on this question. Why should we say that acromegalia is a result of hypophysis affection when we find affection of that organ post-mortem in a case of acromegalia, finding at the same time, also, affection of the spleen, of the



lymphatic glands, and of the thyroid and thymus? It is a fact that persistence of the thymus gland is as frequently found in acromegalia post-mortem as is affection of the hypophysis. And so, too, are lesions of the pancreas. The pathologic-anatomic findings, therefore, in acromegalia do not permit us as yet to state definitely just what role, if any, is played by the hypophysis cerebri in the disease acromegalia. That it is commonly found in the disease is admitted, but that Marie's explanation of it as having etiologic bearing of importance must be taken *sub judice*.

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**Cocainization of the Spinal Cord.**—A. Bier, the original proposer of this method, is horrified at the large amount of solution used for injection in the subarachnoid space. He states that he has seen accidents from small quantities. The accidents he has seen being headache, vertigo, and syncope.

He also protests against the idea that this method of anesthesia is ripe for general adoption. He has been at work to find a substance of less toxicity than cocain for injection, and has found a substance acting as well on animals, but not on man. He thinks he will be able to render the injection in the subarachnoid no more toxic than anywhere else, and hopes to extend the action of the cocainization during operations over the whole trunk.—*Muench. med. Woch.*

**Surgery of Biliary Calculi.**—(W. D. Haggard.) If, owing to contraction of the gall-bladder or fixity of the duodenum, these organs cannot be approximated, the colon can be utilized. While it should be our aim to restore parts as nearly as possible to the normal condition, still, where it is inconvenient and impossible to switch the bile into the duodenum, the colon can be utilized without causing any bad effects to the economy from the absence of bile from the small intestines. This has frequently been demonstrated and proved by the careful experiments of Robson, which he includes with the statement:

*First.*—Bile is probably chiefly excrementitious and, like the urine, constantly being formed and cast out.

*Second.*—Though bile probably serves in the emulsification of fats and their absorption, its presence in the small intestines is probably not necessary for the absorption of an amount of fat sufficient to keep up nutrition and to support life.

*Third.*—Increase of body weight and good health are compatible with the entire absence of bile from the intestine.

*Fourth.*—The antiseptic qualities of bile are unimportant; what little antiseptic quality it may possess is probably derived from the gall-bladder fluid.

*Fifth.*—The supposed stimulating effect of the bile on the intestinal walls is not necessary for a regular action of the bowels.

## ORIGINAL ARTICLES.

### NOTES ON FRACTURES OF THE MAJOR BONE SHAFTS CONTIGUOUS WITH OR INVOLVING THE ARTICULATIONS.<sup>1</sup>

BY THOMAS H. MANLEY, Ph. D., M. D., of New York City,  
Visiting Surgeon to Harlem and Metropolitan Hospitals, New York.

THE past year has been one of notable activity in the literature of fractures, as no less than seven works by different authors have been issued from the press in this period. None of them, however, chronicle any very radical departure, in closed fractures, from the principles promulgated in the early part of the present century by Cooper, Muldaine or Dupuytren, or later by the classic works of Hamilton and Stimson.

Revolution in therapy is only noted in open fractures, and some of those of the shafts involving the synovial membrane of the joints after union. Upon the latter a few brief observations are herein submitted.

**DISTINGUISHED CHARACTERISTICS OF JOINT FRACTURES, OF THOSE IN PROXIMITY TO THE JOINTS OF THE EXTREMITIES.**—Fractures contiguous with or involving the articulations are the most frequent of all; when intra-articular or incomplete, precise diagnosis is often difficult and sometimes quite impossible; thus treatment is frequently unsatisfactory, and deformity and defect in function are not unusual. Intra-articular fractures rarely fuse by ossific union.

Traumatic osseo-arthritis lesions are attended with an excess of pain, stiffness and muscular wasting. Constitutional conditions very frequently complicate a fracture involving the arthritic structures.

**ANATOMICAL CONSIDERATIONS.**—With the single exception of the elbow, fractures opening into joints are very rarely seen in children. The immature, elastic heads of the bones in youth resist the influence of violence better than the diaphysis. These fractures may be anatomically grouped in three classes, viz.:

*First.*—Those entirely extra-capsular, the most numerous.

*Second.*—Those in which the breach in the bone extends from without, in, across, or through the attached capsule into the articulation—the next in order of frequency.

*Third.*—Those entirely intra-capsular—the least frequent.

An articulation is a complex mechanical structure, the center or fulcrum for a powerful leverage, highly vascular in youth, and always richly endowed with a nerve supply on its periphery. Synovial investment of the articular surfaces provide the necessary secretions. This fibrous structure is continuous with the perichondrial and osseous envelopment, and at various larger joints is in direct communication with large bursal pouches and the thecal sheaths.

<sup>1</sup> Presented at the meeting of the Mississippi Valley Medical Association, Asheville, North Carolina, October 12, 1900, and published exclusively in INTERSTATE MEDICAL JOURNAL.



Besides the ligaments, all the larger articulations acted upon by the long shafts, are powerfully supported by muscle and tendon. At the elbow, the wrist, the knee and other joints, large nerve trunks are lodged in close proximity to firm, unyielding structures.

The histological composition of the cancellous heads of bone shafts while widely different from those of the diaphysis in elderly people, it is more vascular. Medullary elements and a periosteal investment are wanting; nevertheless in the event of a fracture not wholly in the articular, ossific union is as rapid and complete as when the diaphysis is involved.

The full nutrition and strength of an arthrodial joint is dependent on free muscular action. When ankylosis locks an articulation, its muscles, now without function, waste and shrink.

Extra-capsular fractures are those which involve the compact and epiphyseal ends of the shafts. They may occur at any period, but are especially common about or after middle life.

Fractures extending from articular head into a joint—sprains, fractures—are most frequently encountered at the ankle in the adult and the elbow in the child.

Intra-capsular fractures are seldom seen except at the hip joint and at the humero-scapular articulation.

COMPLICATIONS AND PATHOLOGY.—All fractures implicating any articulation are peculiarly complicated; all impair the ultimate strength and action of the joint, some quite completely destroy it. The nearer a fracture to a joint, the greater its gravity. It always implies the application of some unusual or great force, or an organic defect in the bone elements, which will render treatment tedious, repair imperfect, and impediment in function certain.

FRACTURE LUXATION.—Simultaneously with a complete break of bone extending into articulation, or entirely within it, there are often varying degrees of dislocation. This is notably the case in wrist, elbow, hip or ankle fractures; so that here not only are we compelled to attempt reduction of the joint, but also the replacement of the fragments; moreover, the mechanism of the entire joint has been deranged, the synovial membrane has been torn, the ligaments, periosteal investments and other soft parts have been contused, overstrained or lacerated. In some of this class, with a minor degree of obvious damage to the parts, there is a partial diastasis. The ligaments have suffered detachment, there is a large intra-articular hemorrhage, with a fracture or split in the long axis of a shaft opening into the joint cavity; there has been a violent wrench sustained, and we have to deal with a complicated fracture.

Some of the most painful and serious manifestations, immediate and remote, after many fractures contiguous with or involving the joints of the long shafts arise from injury of the great blood trunks or the nerves. Ischæmic neuralgia, thrombo-phlebitis, endarteritis, or deep sanguineous effusion are not uncommon sequelæ. The severe damage to the vessels will frequently account for the ultimate delay in repair of the fragments and the absorption of inflammatory deposits. Severe joint injury accompanied with extensive disintegration, is invariably followed by inflammatory implication of the muscles, especially those on the proximal aspect of

the lesion. These structures at first infiltrate, swell and soften, and later atrophy and contract, leaving a stiff and painful joint. In the young and vigorous, these structures resume, in time, practically their full functional activity, but in many suffering from any constitutional diathesis, the pathological changes linger over a long period, or may abide throughout life.

From the foregoing brief and incomplete review of various structures involved in the class of injuries under consideration, it is obvious that the osseous lesion may be of the least significance, or at all events, is but one of several, which call for special treatment. When the circulation is ample and the full nutrition is maintained, *restitutio ad integrum* may be looked for, through the powers of nature aided by art; but under various circumstances of age and the special character of the fracture, nature's efforts at repair may be incomplete or abortive, the defective union is attended with a painful deformity. Endostitis of the cancellous tissues is sometimes succeeded later by an aseptic necrosis. Finally, union may totally fail and the loose, detached fragment may become a foreign body.

DIAGNOSIS.—When deformity is tangible and obvious a diagnosis of fractures near or into an articulation is simple; but in a subluxation, an intumescence may induce such a change on the surface aspect of the parts as to suggest a probable osseous disorganization. Several times have I seen such conditions mistaken for fracture, especially at the wrist and ankle joints. Again, in some instances after joint injuries or parts near them, swelling promptly supervenes and, with muscular rigidity combined, so fixes the fragments that nothing short of a most cautious and critical examination will reveal the existence of a fracture of this class. Malgaigne warned practitioners to be reserved in diagnosis at the first examination in this class.

TECHNIQUE IN THE DIAGNOSIS OF OBSCURE CASES.—Confronted by an injury of a limb in which the evidence of a fracture is obscure, a responsible task lies before us. An oversight may bring chagrin, or involve us in a civil action. It is certainly true, that when a fracture is attended with no displacement, an accurate knowledge of its precise character, or even its presence, will in no radical manner influence therapeutic measures. But, if a suit for injury is in view, the presence or absence of a fracture will weigh in the adjustment for damages, and moreover the patient or relatives may insist on a definite opinion. Sometimes occasions arise where no mortal can give this without resorting to free section of the tissues, or possibly by inflicting serious injury to the patient.

Our resources in diagnosis now are great as contrasted with those of fifty years ago.

REST.—Among the most ancient and valuable of them all, is rest in bed. There is nothing which relaxes the whole muscular system like decubitus in a comfortable bed, and no sort of apparatus ever devised can give us such results in the treatment of many shaft fractures of either extremity.

If we are in doubt, then, at the first examination, we will advise rest of the limb in a flexed position, with such local applications to the member as are grateful and give comfort. In a day or two muscular spasms will have passed off, resorption of effusion will have begun, and painless manipulation will reveal the true condition.



**POSTURE AND A HARD FLAT SURFACE.**—In fractures at the hip joint, of the clavicle near its articular ends, or the proximal end of the humerus, the patient should be placed in the dorsal decubitus on a firm table, with the shoulders and head raised. Posture, comparative contour and outline are valuable aids in diagnosis here.

**ANÆSTHESIA AND ANALGÆSIA.**—An anæsthetic is often desirable in hyperæsthetic conditions of the parts which have suffered violence. An abolition of the pain sense is of the highest value in the diagnosis of various obscure fractures, notably in children, and especially those at the hip in the adult. But the patient may object, there may be constitutional conditions present which preclude the employment of pulmonary anæsthetics, or we may be without ample assistance to administer them safely.

**INTRA-RACHIDIAN COCAINIZATION** bids fair to set preliminary anæsthetics in the background in the near future for exploratory and all operative procedures in the trunk and the extremities. My friend, Dr. Marks, of the New York Maternity, informs me that from ten to fifteen minims of two per cent. cocaine solution injected through the spinal canal will insure painless labor for an hour or more, and analgize all the structures of the body up to the neck. During the last few months, more than a hundred major operations have been performed under its employment in the United States. There is no good reason why this remarkable agency should not be utilized with advantage in the diagnosis of obscure fracture cases, or in fracture reduction or adjustment, of a very painful character.

**THE OPEN INCISION,** surgical literature shows, has not established for itself a legitimate position in the semiology of fracture. It is a procedure which involves risk, it transforms a closed into an open fracture, it tends to retard repair, and affords us no substantial aid as a therapeutic measure. Hence, in no other than in special or very exceptional cases can we regard the division of the tissues as at all justified, as a means of diagnosis in fractures of bone shafts.

**ROENTGEN-RAY PHOTOGRAPHY.**—Skiagraphy or shadow photography must be regarded as a disappointment as a definite and unerring aid in the diagnosis of broken bones, not readily detected by ordinary measures. Some of our latest monographs abound with these photographs, but their accuracy must be discounted, unless this has been demonstrated by dissection, a confirmation wanting in all that have come under my observation. Treaves pronounces the value of the radiograph as greatly exaggerated. Golding Bird warns us of the danger of error in skiagraphy, as does Edmund Owen and others. The following from the *New York Medical Journal* is to the point:

“**THE FALLACIES OF X-RAY DIAGNOSIS.**—We have never sought to belittle the value of the Roentgen-ray in diagnosis, but we felt from the time when the announcement of Professor Roentgen's discovery was made that there was danger of its being overestimated. Such a startling and unprecedented novelty as a means of seeing into and through opaque objects could not fail to impress unduly those enthusiastic individuals—and they exist in our profession as well as among the rest of mankind, though not, it is to be hoped, in quite the same proportion—who voice their unquestioning credulity by such a cry as, for example, ‘the machine

can't lie,' the 'machine' being an ordinary photographic camera or the apparatus employed in making Roentgen pictures. But it has long been known that common photography is capable of distorting the truth to a grotesque degree, and it seems that the Roentgen-ray pictures may do the same thing. This is most cogently set forth in the report of a committee appointed by the American Surgical Association three years ago to report upon the medico-legal relations of the x-rays. The committee's report was presented at the association's recent meeting by its chairman, Dr. J. William White, of Philadelphia, and is printed in the July number of the *American Journal of the Medical Sciences*. There is great danger that misleading pictures which may be made either erroneously or by design, may be admitted as evidence in malpractice cases; yet, how untrustworthy they are, when unsupported by other evidence, is shown by the fact that good clinical results in fracture cases, without impairment of function or palpable deformity, may be made to appear very bad ones in the pictures, and even that fractures may be shown that have no existence, while others known to exist in a recent stage are not shown. Clearly, no conclusion in fracture cases can be invariably based upon Roentgen-ray photography alone, and it is well that such an important body of surgeons as the American Surgical Association has so expressed itself by unanimously adopting the conclusions reached by its committee."

M. Tuffier (*La Semaine Medicale*, April 4, 1900) records his experiments on the cadaver with a view of determining the accuracy of the rays in fractures. After inducing a fracture, he would reduce and adjust it when he secured the precise relations of the fragment by compass measurement, he then radiographed it and always found errors of several millimeters. Perfect reduction of the fragments, he found, was seldom possible and never necessary in order to effect good union.

In the articulations involved by fracture and other coincident disorganization, we can hope for little from the Roentgen-rays, as neither tendon, ligament or membrane is opaque to them. In my experience, no two photographs will produce or delineate the same features in a given case. In one case of injury to the wrist, which came under my care, one shadow-graph showed a fracture through the head of the radius, another showed a whole radius, but a luxated row of carpal bones, while the third, which photographed both limbs, showed them precisely alike.

From the foregoing, and all that can be gathered from reliable sources, it would appear that the evidence of the skiagraph without the confirmation of other well-known resources must be ruled out in all obscure, dubious fracture cases.

TREATMENT.—The primary treatment of closed fractures of any part of a shaft has made no signal advance in the past twenty-five years. Our hopes for the achievement of greater perfection or less deformity or impediment in joint fractures have not been realized, and the principles of their therapy, as laid down by ancient and modern writers, have not been improved on in any measurable degree, up to the present time. Controversy yet waxes warm on the question of material or form of splinting; or indeed, whether any splinting at all is necessary in many cases; on early or late reduction, the position of the limb, early or late motion in joint fracture, etc.



Notwithstanding the chaos of opinion on modes of treatment, a large experience with the management of broken bones will convince one that, in order to obtain the best results, our cases must be managed on some well-defined system, subject, however, to deviations.

DISPLACEMENT OF THE FRAGMENT OR IMPACTION.—Any one who has had an extensive experience with the treatment of broken bones must regard with regret the advice generally set forth in most of our text-books on surgery; to "immediately reduce the fragments and immobilize them." In many fractures close to or extending into a joint, this advice may often lead to disastrous consequences; notably so in certain types of Colles' or fractures through the femoral neck. These two fractures are especially mentioned because of their frequency, and the defect in functions which follow them. Either may be impacted, both involve subluxation. In both, the osseous elements have undergone organic changes, the bones have become hard and brittle and their nutrition is but feebly maintained by a diminished vascularity. Inflammatory changes are propagated to the joint structures, and the bone lesion is early complicated by an arthritis and a tendo-vaginitis, or, as in the case of the hip, a coxalgia is provoked and maintained by the loose, mobile, proximal fragment. Sometimes these fractures are impacted, the ends of the fragments are telescoped into each other, and thus immovably fixed. Shall we break up this impaction in order to obviate deformity and "reduce the fragments?" At the hip all are agreed that this is a fortunate occurrence, but at the wrist or a Colles' fracture, this is viewed, by many, in a different light.

It is my belief that a critical study of the cardinal features of the morbid anatomy of a Colles' fracture will convince anyone that this line of action is greatly to the detriment of the patient. Moreover, from a large experience in the treatment of these wrist fractures, I have found a larger degree of utility and strength in the limb is secured by leaving the impacted fracture undisturbed. Our aim here is not so much to overcome a slight deformity, as to secure the early full use of the hand and wrist. Everyone knows that in many of the most distressing cases of Colles' the least deformity is observed. And again we will sometimes see a wrist with the characteristic hump, or fork-back Dupuytren, with full use of hand and wrist, in working woman, who, supposing it was only a "sprain," had received no treatment at all, but, perchance, a liniment. Anything like violent manipulation in a fracture near a joint, in an elderly person, is to be deprecated. Mobile fragments are to be reduced here when no great force is used. Immobilization, in its strict sense, of a fracture in or near a joint is quite out of the question; sanguineous extravasation, effusion into the capsule and wide-spread cellulitis will render it entirely incompatible with an unobstructed circulation, or the comfort of the patient.

INTRA-CAPSULAR FRACTURE AT THE HIP JOINT, with few, rare exceptions, means the end of the full usefulness of the articulation, and the beginning of a crippled state, to remain throughout life. An impaction in fracture here is a fortunate event, and hence, caution should be observed in efforts reaching diagnosis not to disturb it. In those cases where the ends of the fragments are telescoped, any description of rigid immobilization or protracted confinement to bed is a species of needless torture; not only useless as far as the local lesion is concerned, but harmful to the general

health. Here the method of Lucas Chaunponiere comes in to advantage.

What shall be our line of action in hip joint fractures with separation of the femoral fragments? By any improved mode of treatment may we hope for approximation and consolidation of the fragments, and if not, should we be content to follow in old ruts, do some perfunctory splinting, with extension, and let the patient, later, move about on crutches or by the use of a cane? It has long been my conviction that in this class of cases, wherein there is practically no hope of osseous repair, in old people, aggressive surgery should be evoked; we should open freely down on the proximal fragment from the anterior aspect of the thigh and exsect it. At the same time, remove or round off the sharp spiculated end of the distal fractured end of the femoral neck. In fractures completely through the anatomical neck of the humerus, this course is pursued with safety and advantage, and there seems no valid reason why it should not apply with equal or greater advantage in intra-capsular fractures at the hip. I am acquainted with no recorded cases of this procedure having been resorted to, but there has been one in my own practice. The patient was a young man of twenty years, a remarkable age for this accident. The case came under my care in the Harlem Hospital, eight years ago. After entrance the usual mode of treatment was instituted, but a week later severe pain, with large tumefaction appeared just below Poupert's ligament, with marked rise in temperature and constitutional disturbance. Under an anæsthetic, Langenbach's long anterior incision was made, the capsule exposed and the femoral head, which had been shattered into three fragments, was removed. At the same time the irregular surface of the inferior fragment was evened off with a pliers, the deep parts were well irrigated and the capsule closed. Recovery was rapid. There resulted one and a half inches of shortening; no more than before the arthrotomy. He recovered the full use of his limb, and with an elevated cork sole, now walks with scarcely a limp.

In many of these fractures, there are varying degrees of shattering of the proximal end. In the atrophic, anæmic, changes of advancing years, there is evidently slight, if any, direct arterial circulation through the ligamentum-teres, and the imprisoned, useless femoral head serves no purpose, except as a foreign body, to provoke irritation and painful reflex disturbances, as with a cariesed or diseased tooth; hence, when all hope of union is past, it should be freely cut down on and extracted. The operation required, entails but a very moderate loss of blood, the joint and adjacent parts, in recent cases, are now well drained of extravasated blood and inflammatory deposits, and the aseptic wound should close early by primary union. This procedure would rob this fracture of its long, tedious, painful and useless treatment by means now in vogue, and reduce the time of recovery from months to weeks.

COLLES' FRACTURE, from the age of the patient and the peculiar complex character of its morbid anatomy, yet defies satisfactory treatment in a considerable proportion of cases. An osteoarthritis, a neuritis, or stiffness, with tendo-vaginitis so commonly follow as sequelæ, conjoined with a diastasis and displacement of the head, that after apparent union of the fragments the hand or the fingers remain stiff or helpless for a long time. In some of these cases, long after fusion of the fragments, there are areas



of the most acute hyperæsthesia extending up to the trunk. Melancholy, depression of spirits and other marked psychic disturbances are notably marked in this special fracture.

In markedly impacted Colles' fracture with diastasis of the radio-ulnar joint, fracture of the styloid process of the ulna, and a rotary and outward displacement of the carpus and the ulna, it remains an open question whether or not fresh force should be applied, the fragments liberated and an effort made to press them into position and there finally fix them.

From a theoretical standpoint, this would seem to be the only rational course open, but for reasons already stated this course is impracticable as function and strength of a joint are not incompatible with a limited deformity of it. The whole question in after results, after this fracture, resolves itself into the degree of damage to the tendon, vascular and nerve structures, and to the interstitial changes of the elements of the radial head, rather than the quality and extent of deformity.

So far conservative or osteoplastic surgery, promises little in the way of improvement of function or relief from local discomfort in Colles' fracture. We receive but little encouragement from recorded cases of osteotomy performed in these cases. Within the past year, two cases have come under my care, after two or three months' treatment, in which the patients—both females—despairing of the recovery of the use of their limbs, urged me to do something that might relieve the distressing symptoms and liberate their joints. One had her arm broken two months before. She informed me that she was placed under an anæsthetic in its adjustment, and a plaster cast applied. She had the typical deformity, the fingers were stiff and atrophied, and all the parts were exquisitely sensitive. An osteotomy was performed with a view of securing a better coaptation of the fragments and liberating adhesions. Reasonably rapid union of the fragments followed, the wound closing by primary union, but no important improvement has resulted. She later entered another hospital, where the radius was again refractured and treated with the same result, when she reported to me. My second case, a railroad accident, presenting somewhat similar features to the first, was operated September 18th. In her case the greater part of the radial epiphysis was found of a soft, almost pulpy consistency, undergoing an aseptic necrosis. Since the operation, she expresses herself as much relieved of the pain and stiffness in her fingers, but she yet remains in the Metropolitan Hospital, and what the final outcome of the case will be is yet in doubt.

FRACTURES AT THE ELBOW, intra. or extra. capsular, the T fracture, through the condyles or epicondyles, are most commonly accidents of childhood, and usually undergo repair, with practically full recovery of function. In the adult, after middle life, they are of more serious significance. The soft parts are then more prone to intense inflammation, which only subsides after extensive adhesions are formed; a troublesome arthritis with hyperostosis over the site of union, and nerve pressure, by osseous penetration or inclusion, are not very infrequent. Fracture from behind, through the olecranon, or below through radial neck, or the corroid fossa of the ulna, usually do very well by ordinary measures, and seldom leave serious impediment in function. The most serious results we note after fracture through the lower third of the humeral shaft, are those succeeding damage to

the musculo-spiral nerve by the sharp ends of the fragments, or by callus inclusion, or pressure after union. In a considerable proportion of the cases of brachial palsy arising from this cause, direct surgery accomplishes a prompt cure.

The most serious results from simultaneous fracture, through both the radial and the ulna shafts in their upper third, is from osseous fusion of them in the course of consolidation and loss of operation. A year ago a case came under my care, of a man who ten months previously had sustained a severe fracture of the elbow, leaving the joint stiff, the arm without the power of pronation, the wrist stiff, the hand and fingers partly paralyzed and wasted—in fact, the limb was quite useless. Before he came under my care, he had surgical treatment for three months. On examination, it was found that he had had a fracture through the ulna about three inches below the coronoid process, with the head of the radius luxated forward and upward. An osteoplastic operation was performed by me, which yielded the most gratifying results. The displaced head of the radius which had put the musculo-spiral nerve on a strain, and had nearly crushed the median nerve through, was extracted, and the osseous callus which welded the ulna and radial shaft together was cut completely away. Full flexion of the elbow was obtained, pronation of the forearm was recovered, and the paralytic symptoms overcome.

In these cases at or contiguous to the elbow joint, consecutive osteoplasty will frequently accomplish remarkable results.

**FRACTURES EXTERNAL TO THE ANATOMICAL NECK OF THE HUMERUS,** after repair, very rarely seriously impede shoulder action, or involve the articulation. They are of infrequent occurrence, and seldom inflict damage on any structure except the circumflex nerve. The deltoid paralysis resulting is transient, and fusion of the humeral fragments at this point is generally rapid and complete. A fracture completely through the anatomical neck, being wholly intra-capsular, is often mistaken for a true luxation. Excision of the proximal fragment is always called for in these cases.

**CLOSED FRACTURES OF THE SHAFTS OF THE FEMUR,** external or close to Winslow's ligament, are not often attended with any special complications. Intra-condyloid or trans-condyloid fracture involves a free hemorrhage and a consecutive synovial inflammatory reaction; but this rarely provokes an extensive implication of the arthritic structures, except when violence to the joint has been very considerable. In two such cases, under my care in hospital during the past year, union was speedy and full restoration of function as complete, if not more so, than we generally observe it after mid-fracture of the adult shaft. These cases are followed by shortening; but when the relation of articular surface are much distorted, or an excessive callus forms, the range of flexion is impeded and a certain degree of stiffness ensues. With the exception of sprain fractures, we meet with few others of the closed variety extending through the tibial head into the knee joint, or fracture through the tibial shaft, within three inches of the tubercle.

**FRACTURES AT THE ANKLE JOINT,** above it, or directly involving it, are frequent. That type first described in detail by Pott and Dupuytren being the most serious. Here, we have a fracture of two bones, one into and



one external to the articulation, together with a subluxation of the joint. In aggravated cases, the extent of displacement is marked, and a weak, sensitive, stiff joint may succeed any line of treatment adopted; not, let it be remembered, from the osseous changes resulting, as from luxated condition of the articular surfaces following a forward, backward, lateral or rotary displacement of the tibia, with a rupture of the ligamentous supports.

In Pott's fracture, or, properly speaking, a fracture luxation at the ankle joint, in consequence of its special and complicating features, we must institute treatment particularly adapted to it. Here, above all other situations, early and complete reduction is necessary; not, however, until acute intumescence of the parts has subsided. This involves complete reduction of the luxation, and replacement of the fragments. Full relaxation of the crural and sural muscles, and lateral decubitus of the leg and foot, remove all strain on the joint and best favor a quiescent state of the disorganized parts. In order that the joint structures may be well supported and steadied during the period of repair, well-moulded wood fiber splints should be applied, care being observed that they are well padded.

One of the great drawbacks, in these cases, is the loss of the internal lateral ligament, which is either torn off from the minor malleolus, or fracture through and carries the end of the apophysis with it. I note frequently this spur of bone fails to unite, leaving the sharply cleft edge of the proximal fragments so near the surface as to be easily seen and felt. The object of Dupuytren's apparatus was to favor union here, but it frequently failed, as do all others. There is a wide diastasis of the tibio-fibular function with a fracture low down on the fibula, the case is rendered more complex yet, and difficult to effectively treat by current methods.

So far the free, open incision and primary osteoplastic procedures have accomplished so little in this fracture luxation that they have been discontinued. In a few cases of aggravated deformity with subluxation and a painful joint restraint ensuing sections, consecutive osteoplastic operations have been resorted to, but not with sufficient advantage to the patient as to warrant their continuance.

Fractures through the tibia just above the ankle joint are comparatively frequent. At this point, just before the bone spreads out at its base, its diameters are more reduced and its substance is so compact that a split of fissure through the lower fragment into the ankle, closed fractures, we must assume occasionally occur.

My experience has been that when these fractures are oblique, the extent of overriding of the fragments is much greater than when higher up, and their reduction and retention are more difficult.

TENOTOMY AS AN AID TO REDUCTION.—Some few cases have come under my notice in which the tendo-achillis was divided in order to effect ready reduction of the fragments here. In every instance, the strength and action of the ankle joint were impaired after this tenotomy. This procedure, simple in its performance, is harmful in its consequences, and should not be lightly undertaken.

SUMMARY.

*First.*—Let it always be borne in mind, that in fractures of the bone shafts, the nearer they are located to the joints, the more serious the character.

*Second.*—When complicated by a subluxation, or when a fracture extends into the articulation, troublesome complications are quite certain to follow in a large proportion of cases. In this class the osseous lesion may be unimportant as contrasted with the change to the arthritic structures, the large blood vessels or the nerves.

*Third.*—The symptoms of joint fractures are not unequivocal, as there are no special characteristic features in the pain of luxation, sprain or fracture; nevertheless, as a rule, after reaction sets in, the acute suffering is greater in joint than any other fracture.

*Fourth.*—The definite diagnosis of the precise position and quality of either an intra- or extra-articular fracture, when there is doubt, is often difficult, and sometimes impossible. In cases without displacement of the fragments, the application of great force under anæsthetics to verify diagnosis is an uncalled-for procedure, unless the patient insist on it. In consequence of the frequent errors and uncertainties attending the use of the Roentgen-rays, without other confirmatory evidence, their employment, when in doubtful osseous lesions, as a diagnostic agent, are totally unreliable.

*Fifth.*—The primary treatment of closed intra-articular fractures, or those in close proximity to a joint, in general, must be recognized on these fundamental principles everywhere. In intra-capsular fractures at the hip, with proper aseptic precautions, primary resections of the distal fragment will abbreviate convalescence, spare the patient needless suffering, and leave a more useful limb than when the articular head is retained.

*Sixth.*—In a considerable proportion of aggravated cases in young or vigorous subjects, consecutive osteoplastic surgery will frequently effect most gratifying results. This is only resorted to after acute symptoms have subsided.

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**Paralysis Agitans.**—The drugs that are in use for paralysis agitans, and from which some benefit in dissipating symptoms and fulfilling indications may be expected, are hyoscyamus and duboisine, Indian hemp, opium, hæmatogenous agents (such as arsenic and iron), and occasionally gelsemium and veratrum viride. Of these the most important by far are the first mentioned. Given hypodermatically, which is the preferable way when possible, or by the mouth, they promptly mitigate the severity of the tremor, and have a pronounced tendency to relax muscular rigidity. They are both powerful toxic agents and must, therefore, be given with care.—DRS. JOSEPH COLLINS and L. J. J. MUSKINES in *New York Medical Journal*.



## A CASE OF INTERMITTENT HYDROPS OF THE KNEE.<sup>1</sup>

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**A**MONG the most important joint diseases with which we have to deal is one but rarely seen, which is known as genu hydrops intermittens. In this disease the swellings may occur at regular or irregular intervals, the principal symptom of which is a watery effusion, usually in one or both knee-joints. This affects otherwise healthy persons, without any injury or known cause. One writer has classed it under the head of inflammation accompanied with abundant serous effusion; but as there is usually no pain, and never any redness or rise of temperature, I believe we should look for some other pathology than inflammation of the synovial membrane. While in very rare cases there is severe pain in the joint, this is the exception. The effusion usually appears rapidly, remains but a short time, and becomes gradually absorbed. But in some cases before the exudate has entirely disappeared the patient has a new attack, and thus new exudates being added to the old, it is sometimes years before all have disappeared entirely. A period of rest of several years may then ensue, when the old régime will be taken up again. Schuchardt reports a case of a lieutenant who was attacked by a gradually increasing pain in the left knee-joint. No cause could be assigned for this, which was especially marked when the limb was kept in a fixed position for any length of time. This occurred in July, 1886. The swelling then appeared at intervals of eight to fourteen days with pain, but without any interference with his general health. From August to the middle of September he employed the water treatment in Wiesbaden, but without success. From that time on the swelling appeared every eight days without pain. In the intervals effusions disappeared entirely. The first of January, 1887, the expected swelling did not appear, but on the 12th it appeared, and the knee-joint was tapped and washed out with an antiseptic solution. The contents of the joint were a clear, serous liquid, with a few flakes of coagulated fibrin and small cells from the synovial membrane. Micro-organisms could neither be demonstrated by staining nor by cultures from the exudate. After the operation the swelling did not appear until the following fall. About Christmas, 1887, the patient, after straining his knee while hunting, had a very rapid and large effusion. It disappeared without treatment, but gradually periodical swellings came again, although not so severe as formerly. During the summer and fall of 1888 everything disappeared, and he continued to go about without inconvenience, with one exception. He awoke one morning with a large swelling of the knee, but remaining in bed during the day he was able to walk about and attend the theater that night. The next day all of the effusion had disappeared. There was no apparent cause for this attack. During the fall of 1889 there were no more attacks. From then on at intervals of eleven days light attacks occurred. In March they became more severe, and the knee was two centimeters larger than the healthy one, and with pain radiating to the calf.

The patient was then put upon drachm doses of iodide of potash, and after using this for a short time the effusion disappeared. It may be of interest to know that this patient had a brother, a stout, well-built student of eighteen years of age, who suffered for two years with vaso-motor neurosis.

The following is a case that came under my personal observation last winter:

Patient, a lady of about forty-one years of age; married; no children; previous history good. No tuberculosis in family, and no history of rheumatism or syphilis. The first attack occurred in the summer of 1894. No history of an injury. Patient first noticed that the knee-joint cracked a little on motion and began to swell, when in three days the swelling was quite marked, this being evidently an accumulation of synovial fluid. There was no rise in temperature, no pain, no discoloration; the knee-joint, of course, being somewhat stiff on account of the distention. At that time the patient's knee was bandaged with flannel, and she was treated for rheumatism. This attack lasted about five weeks, when the fluid disappeared and she was apparently well until the summer of 1897, when she had a similar attack, which lasted her from three to four weeks. The third attack occurred in July, 1898. This attack was different from the first two, in that the accumulation in the knee-joint was not so marked, and would almost disappear, and then in a few days reappear. She did not get well this time for about six weeks. The fourth attack, the one in which I saw her, occurred in January and February, 1900. The patient's left knee was apparently dry from the cracking sensation on motion, and after a few days began to swell up, the accumulation being, as usual, synovial fluid. There was no pain, no redness, no rise in temperature—in fact, none of the signs of inflammation present except the swelling. I put the limb in a plaster-of-Paris dressing, and while the usual signs of rheumatic arthritis were not present, I thought it would do the patient no harm to give her salicylates. This was done, but there was no good effect from their administration. The iodides were next given with negative results. After eight days' rest with the limb in plaster the accumulation disappeared almost entirely, but upon removing the bandage it reappeared. This occurred five times at intervals of eight days, and finally the patient decided to go to Hot Springs, where she remained three or four weeks. There she took the baths, was placed on a rigid anti-rheumatic diet, and given the usual anti-rheumatic treatment, all of which did absolutely no good. During her stay at the springs her attacks occurred with the usual periodicity, but were not quite so severe. When she returned to me by the first of March I decided to give her arsenic, on the theory that the condition was, so far as I could tell, a neurosis. In less than three weeks after beginning with arsenic (Fowler's solution) the swelling had all disappeared, and up to the present time there has been no indication of a recurrence of the trouble.

This disease seems to be more prevalent in women than in men. Eschricht collected reports of eighteen cases, twelve of which were in women, four in men, two sex not given. It occurs principally in adults, only one case, that of a nine-year-old girl, reported by Pierson, having occurred in a child. The disease has never been seen in old people. The duration of the disease varies greatly. Von Grandidier reports a case



which was cured after a few months, while Seligmueller mentions a case that was cured only after an existence of twenty-five years.

The disease is peculiar in the following way: For instance, one patient will have attacks which occur every eight days; another patient will have attacks which occur every eleven days, some every thirteen days, some every four weeks, and some every three months, the intervals between attacks in each case being the same—that is, in any individual case we very rarely see any irregularity in the time of recurrence. A peculiarity of the disease is the disappearance of all symptoms during pregnancy. Loewenthal mentions a case of a twenty-eight-year-old woman who had the disease for some time, which recurred every twelve days, but was free during the entire pregnancy. Panos reports a case in which the symptoms disappeared from the beginning of the pregnancy to the fourth month, when a miscarriage took place, and the disease immediately recurred.

The knee-joint seems to be the most often attacked. In the eighteen cases mentioned by Eschricht, sixteen were in the knee-joints; other joints affected are usually the elbow, wrist and hip-joints.

In looking up this subject I find no mention of it in any of the American text-books at my disposal. "Koenig's Surgery," last edition, gives about twelve lines to the subject, simply stating that the disease exists, and calling it a neurosis. Schuchardt, in a monograph on hydrarthrosis, takes up the subject of hydrarthrus intermittens and mentions several cases, his conclusions being that it is a neurosis. I am informed that the disease is considered a neurosis by Bergman. Rosenbach considers this trouble a variety of subacute joint rheumatism. He claims that because salicylates are not effective there is no reason to consider it not rheumatism, as we know that sometimes salicylates have no effect upon rheumatic patients. Schuchardt thinks the periodical swellings would be easily explained if we could find the schizomycetes in the membrane or effusion, which germ concludes its involution in fourteen days, and which, therefore, might be responsible for the swelling. From other pathologists who have given attention to the disease we are led to believe that it is due to a vaso-motor neurosis. While it may be easy to understand how an effusion can take place into a joint on account of the dilatation of the vessels of the synovial membrane, it is not easy to understand the equally sudden disappearance of the effusion. It has been suggested by Brodie that the disease be placed in the same category as hives, which come and disappear so suddenly.

The questions that most interest us, of course, are its etiology and pathology. I think we are all agreed that intermittent joint swellings are either due to infections or nervous causes. It is possible that the cause may be an infection of some micro-organism, whose development and life period extends over a time the same as that of the disease, and that the exacerbations correspond to the period of activity of the life of the germ. In all cases where the joint membrane has been examined, no pathological change has been found. While the disease is classed by some as a joint neurosis, we must not forget that there is a striking disproportion in the severity and the symptoms of this trouble and a typical case of articular neurosis, the principal symptom of the latter being pain, while in intermittent hydrops pain is almost never experienced. Still we can only sur-

mise that the rapid accumulation of fluid in the joint is due to the nervous control over the blood vessels of the joint membranes, which vessels are certainly the source of the fluid accumulations.

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## A REPORT OF A CASE OF MALIGNANT JAUNDICE ICTERUS, OR ACUTE YELLOW ATROPHY.

BY T. A. MARTIN, M. D., of St. Louis, Missouri.

ON OCTOBER 28th I was called to attend Mrs. M. B., æt. nineteen. Health had been good until past few days, when she had complained of feeling badly, appetite poor, heaviness in stomach after eating, eructations, headache, etc. Family had noticed that patient was jaundiced. She had visited a friend and relative as recently as October 26th, had taken dinner, and spent the evening, remaining as late as nine o'clock; was complaining while there, and ate but little dinner, and the food seemed to increase her indisposition—in fact, produced decided nausea; was taken rather violently ill about two o'clock the following morning, October 27th, with what the family supposed to be an attack of acute indigestion or cholera morbus. Had violent vomiting and purging, accompanied by little or no pain. This attack was treated by the administration of domestic or home remedies, consisting mainly of flour water, sinapisms, etc., which seemed in a great measure to give relief, so that no medical aid was called until the morning of the 28th, when I was summoned to see her.

I found the patient with an intense icteric discoloration of the whole body, with a large ecchymosis covering the nose and a part of the face, ecchymotic patches over most of the body, which were imperfectly marked, lips blue, tongue swollen, extremities cold, radial pulse, slow and at times not perceptible, temperature normal, respiration rapid and sighing. Patient's mental condition unimpaired when awake. There was a marked tendency to somnolency, and when in this state occasionally a mild muttering delirium. Pain was not complained of.

There was some tenderness on deep pressure over the region of the liver; marked decrease over area of normal hepatic dullness.

There was a discharge of blood from the vagina, supposed to be catamenial, as her menstrual time was due. There had evidently occurred an intestinal hemorrhage also, as the alvine dejecta was said to have been black and tarry; by the family supposed to be bile. The vomited matter had been mostly bile. I saw neither, as the vomiting and purging had ceased some hours prior to my first visit. I saw the patient first at 10 A. M., again at 3 P. M., and again at 4:30 P. M., with Dr. Stauffer. She died at about 6 P. M. the same day.



This is the first and only case I have ever seen in a practice of over twenty years. That it is a rare disease all writers on the subject admit.

Dr. Osler, whose hospital and clinical experience is exceptionally large, says no case has fallen under his observation, and that there are but two hundred and fifty cases recorded.

Tyson says it is fortunately a rare disease, due probably to some virulent poison, probably of autogenetic origin, the cause or causes of which are unknown. The disease is uniformly fatal, running a rapid course, the duration being, as a rule, less than a week.

Women are more subject to it than men, and pregnancy seems to stand in some causative relation to it.

Treatment, so far as known, is unavailing.

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## THE TREATMENT OF PERI-RECTAL ABSCESES.<sup>1</sup>

BY JOHN L. JELKS, M. D., of Memphis, Tennessee.

**M**Y ONLY apology for consuming your valuable time by presenting this seemingly insignificant subject, the treatment of peri-rectal abscesses, is to be found in all text-books on surgery and diseases of the rectum: the inefficient treatment outlined therein, and the statement made in some of them that fifty per cent. of all ischio-rectal abscesses result in fistulæ. The neglectful or improper treatment of peri-rectal abscesses, whether of the so-called ischio-rectal variety or those situated in a different anatomic relation to the rectum, have, within the scope of my limited clinical experience, resulted in a great deal of unnecessary suffering. While thus generalizing, it is not my intention to encroach upon the field of genito-urinary surgery only so far as to include circumscribed abscesses not communicating with the urethra or vagina, or dependent upon a urethral stricture. No peri-rectal abscess need result in a fistula except, perhaps, those which are the result of malignant diseases, namely: cancer, tuberculosis, and syphilis. In fact, then, not to the abscess *per se* can this be the result, but to degeneration of the tissues involved; and the pus infection here becomes a concomitant and complicating process in the case, the gravity of which depends upon the extent and character of infection, the vitality of the tissues, and the physical resistance of the subject.

Even in many of those which are the result primarily of syphilis or tuberculosis we can restore the parts to health by early and timely treatment.

Taking into consideration the generally accepted statement that a fistula is the result of an abscess, then the statement of Allingham that fistulæ are more common than are hemorrhoids, if we then accept as true the belief expressed by Cripps that fifty per cent. of all ischio-rectal abscesses result in fistulæ, we must recognize, first, the great frequency of abscess formation about the rectum; second, the importance of prompt and

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<sup>1</sup> Read before the Mississippi Valley Medical Association, Asheville, North Carolina, October, 1900, and published exclusively in INTERSTATE MEDICAL JOURNAL.

adequate measures for diminishing the patient's liability of having a fistula.

I have treated a number of abscesses in this region in the past few years, and the invariable result has been early and complete recovery; therefore the statistics of Cripps, Allingham, Matthews and others have led me to believe that the technique which I now practice and have for the most part practiced for four or five years, is responsible for some recoveries. The fault to be found in a simple incision and drainage in these abscesses is that their walls are not gotten rid of; hence nature, most often equal to the task of absorbing or otherwise throwing off this barrier to general infection or infection to deeper structures, so generously supplied in this locality, seems unable to do so here, and, as in many instances, the abscess walls become calloused and all efforts to establish granulation are futile.

This foreign substance remains to irritate and cause suppuration. The rational idea of treating a septic endometritis is first to destroy the diseased endometrium; hence the usefulness of the handy curette. Is the same not rational here? I hold that it is so, and in the treatment of the two conditions I would make no special distinction.

Anæsthesia is another essential effect to be attained in the treatment of these cases, than which there is but one object of the surgeon more essential, and that one is to be mentioned later. General anæsthesia is always to be preferred; while in the case of superficial abscesses local anæsthesia will suffice for hasty, though thorough operation. Small superficial abscesses may be frozen and excised as would be a small tumor. Where the abscess is very close to the bowel, general anæsthesia and thorough dilatation of the sphincters are essential and should never be omitted.

As soon as I am able to elicit fluctuation, and I dislike poulticing to accomplish this end, I open freely down to the bottom of the abscess, parallel with the rectum, and usually transverse the folds. I then irrigate with a formalin solution through an irrigating curette attached to a fountain syringe, until the fluid comes away clear. Thus I make sure that I will not infect healthy tissues in the path of my curette. Thus ends the efforts of most operators when, indeed, the important step begins. I then, with a sharp irrigating curette, fearlessly and surely remove all the abscess walls, thereby converting this cavity into a surgical wound pure and simple. Continuous irrigation with formalin solution is allowed through the curette until the operation is complete.

The rectum is thoroughly dilated then and washed clean with formalin solution, any ulcers cauterized, and hemorrhoids removed either by the ligature or cautery method. The cavity is then packed with iodoform gauze, and dressed again on second day after operation. A weak solution of formalin is used then and every day or two thereafter in irrigating these cavities. After thus operating on these cases and treating them I expect no further suppuration. After the third day the dressing is changed from a dry one to iodoform gauze, on which is spread equal parts of balsam Peru and and liquid vaselin or castor-oil.

Matthews, Allingham, and others have advised the use of such agents as bichloride of mercury, carbolic acid, and hydrogen dioxide in irrigating these cavities; but in my hands they have all proven defective and ob-



jectionable. Since using formalin solution in irrigating, I have, in the after-treatment of them, seldom noticed suppuration. With either of the previously mentioned antiseptics I had found that however careful I was to cleanse the wound from day to day, I would find some discharge when I returned on the following day. With the bichloride—a weak solution (one to four or five thousand)—I had the best results. I never liked carbolic acid for the purpose so universally designed. Indeed, I think if the solution be strong enough to kill the streptococcus or staphylococcus or the tubercle bacillus, the same would do damage to the healthy tissues.

I have repeatedly endeavored to obtain satisfactory results from the use of hydrogen dioxide, but after the stuff had fumed and bubbled for some time I could wash out particles of pus and débris with a fluid used with some force. I have thus endeavored to check the ravages of a chanchroidal bubo for weeks without avail, when in forty-eight hours I could have stopped completely the destructive process with a solution of formalin. Suffice it that I have not obtained as good results from the use of other antiseptics as from formalin. If the formalin solution becomes too irritating after a few days' use of it, I use a weak solution of bichloride and dress the wound with iodoform or borated gauze, saturated with a fifty per cent. solution of antibrule, a combination of carbolic and picric acids and formalin. I have not found the objections to the use of formalin in rectal and gynecological work referred to by rhinologists and laryngologists.

When abscesses are thus summarily dealt with and dressed daily little fear need be entertained of the fifty per cent. resulting fistulæ as referred to by Cripps and others.

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**Plastic or Croupous Bronchitis.**—Treatment divides itself under two heads: (1) Means used to loosen and dislodge the plugs. (2) To prevent their recurrence. The employment of emetics seems rational, but unless the fibrinous casts are already lying loose, it is difficult to eject them by inducing vomiting. Besides, as we have no exact means of knowing when the plugs have become so thoroughly loosened that they can be thrown off, it is, on the whole, the wiser plan not to administer emetics. Various inhalations, medicated and otherwise, have been suggested, but in my experience I cannot say that any of them were of the slightest service. I regard the treatment of plastic bronchitis as, generally speaking, unsatisfactory. Nothing short of expulsion of the casts gives relief. Lime water or lactic acid sprays and inhalations, also solution of the alkaline carbonates, are not more reliable. The internal administration of iodide of potassium, with or without expectorants, gives as good results as anything. Ewart recommends the cautious intratracheal injection of oil, or a milk solvent such as lime water or trypsin. To prevent recurrence, I know of nothing better than the employment of such means as will improve the general health, living in a dry, bracing atmosphere, good food, the internal administration of tinc. quin. ammoniat., nux vomica, cascarrilla, with or without cod-liver oil.—THOMAS OLIVER, M. D., in *British Medical Journal*.

## SURGICAL CLINIC.

BY ROBERT T. MORRIS, M. D., of New York City,

Member American Medical Association, New York State Society, Academy of Medicine,  
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and Ithaca City Hospitals, Etc., Etc.

**C**ASE 1. CARCINOMA OF THE PROSTATE, WITH OBSTRUCTION OF THE BOWEL AND URETHRA.—The case is one of suprapubic fistula and inguinal colostomy, operated upon last week. We have primary union, and the patient is now ready to have adjusted a light truss for the closure of the colostomy opening and the suprapubic fistula at the same time. As you remember, the case was one of carcinoma of the prostate, with obstruction of the bowel and urethra. We made an inguinal colostomy for the bowel, and a suprapubic fistula for the bladder by turning in two ribands of skin from the abdominal wall and suturing them to the bladder, so that they remained face to face and left a permanent fistula with soft walls, and not contractile. A spot diagnosis of the carcinoma was made in this case by making frozen sections with ethyl chloride, for immediate examination by the microscopist. The reason why primary union may occur in these cases where septic urine has been flowing over the wound, is because there has been excited a tremendous leucocytosis. This is a point that is not appreciated by the general profession, and it is important that we should recognize it as our chief help in obtaining repair of wounds and in fighting bacteria. One drop of the urine that flowed over that wound would infect any one of us dangerously, yet in this patient pints of urine flowed over the wound and yet we obtained primary union. Why? Because the carcinoma of the prostate had excited a great local leucocytosis. If I open the abdomen of a patient whose abdomen is filled with pus and I prick myself with a needle I may die, but the patient lives. Why? Because the patient has established a leucocytosis which protects him; but I, not being so protected, die. This is a principle which should always be borne in mind, and this is a good demonstration of it, where the wounds have healed by primary union in the midst of sepsis. Another principle that should be borne in mind is this: that if we take two hours for opening a walled-in appendix abscess, separating the adhesions, and taking all that time because we wish to be careful against infecting a normal peritoneum, we have injured that patient by lessening his recuperative power. Whereas, if we realize that it does no harm for the pus to flow over the peritoneum, that we can evacuate the abscess, separate the adhesions, and get out the appendix in twenty minutes' time, we have not shocked that patient much and he recovers easily. If we guard the peritoneum, packing in gauze to protect it, and do the most painstaking and careful work according to some text-books, we shall do what is, I believe, an injury to the patient. Avoid taking a great deal of time and an unnecessarily long incision and the gauze packing which shocks the patient extensively; all these things can be avoided if we keep in mind our modern knowledge about local leucocytosis. This patient, with the suprapubic fistula and primary union, although the wound was bathed with infected urine, demonstrates the dependence that we place on



leucocytosis. If we remember the reasons for such results, our patients are saved a great deal of desperate surgery done on the score of cleanliness.

CASE 2. BENIGN NEOPLASM OF THE BREAST.—This young lady is twenty-three years of age, unmarried, and has a growth, a neoplasm of some sort, at the periphery of the left mammary gland. She has noticed the tumor about one month only, but it may have been growing for a longer time. Her attention was first brought to it, when a man bumped against her in a car, and injured her at this point. In examining her injury she discovered this mass. These growths of the mammary gland often begin without pain, but later pain appears and takes on some definite character. I will first determine if the tumor is attached to the mammary gland, or to the lymph nodes about it. It is not attached to the lymphatics; the lymphatics in the near vicinity are quite free. As I examine beneath the pectoral muscles, I find no lymphatic infection. The mass is extremely movable, and is attached to a small portion of the mammary gland. I cannot separate it from that quarter of the gland. The nature of a growth of this sort, hard, round, freely movable, seated at the periphery of the mammary gland is probably benign. It is very likely she would never have discovered it, except accidentally. She may carry it for years, and not know that the growth was present. In this instance, I feel quite positive that this is a case of cyst of the mammary gland. These cysts are benign, but they are likely to undergo changes. I should advise the patient to have the neoplasm removed because of the liability of change in its character. If we should introduce a hypodermic needle, we could determine its nature, but I am opposed to using a needle for this purpose, because if it is a growth which is beginning to undergo malignant changes, this procedure might spread infection. I prefer to make ready for a more extensive operation, and then ask Dr. Brooks, the pathologist here, to stand by with a microscope. The part should then be anæsthetized with ethyl chloride, a small incision made and a small portion of the growth removed frozen with ethyl chloride, and examined on the spot. If we then found that it was a benign growth, I should stop right there; but if it was found that it was a malignant growth, or beginning to be malignant, I should then proceed to remove the pectoral group of muscles and the axillary glands. Now, it seems like a simple matter to use the hypodermic needle, but I would rather not until I was prepared to do a more extensive operation, if it was deemed necessary. This is undoubtedly a cyst of the mammary gland which may remain benign for years, and of which we may never hear of again, and yet, in a few months' time may become malignant. If this patient will allow us to watch it, we will let it alone, but she must come back from time to time to have it examined. It is important that she should be cautioned not to examine or handle it herself. Why the breast should be a favorite point for the development of neoplasms I do not know, although we do know, of course, that it is pretty rich in epithelial elements. Sarcomata may arise from the deeper layers of connective tissue. We may have cysts, fibromata, carcinomata, and a great many neoplasms of different sorts arising in the mammary gland. There are many theories held as to the origin of tumors. Cohnheim's hypothesis is that more cells are formed in the embryo than are necessary for the development of a part. In the process of growth certain groups of

cells are isolated, and cut off from their fellows. These groups of cells may ultimately develop into tumors. More often these cells remain latent. Some of these embryonic cells were originally intended to develop muscle, others to develop nerves, other cells to form bone, etc., each group of cells forming certain tissues. When the child is born, the embryonic cells having completed their mission, some are left over, and should not further accomplish anything—they are simply left there. According to Cohnheim, these cells remain in the tissues as latent cells throughout life; when, for any reason, the latent cells become irritated, they tend to form the same kind of growth that they were originally intended to form, but in a perverted and destructive way. These latent embryonic cells seem to be particularly easy to irritate in the mammary gland; and there are apparently more of them than in most parts of the body. If Cohnheim's theory is correct, that is why we have so many neoplasms at that point.

I asked this patient if she ever noticed any increase in size in this tumor when she was unwell. (None.) That is a characteristic point in making a diagnosis of cysts of the breast. We are apt to have increase at menstrual periods, and decrease in the intervals.

CASE 3. PAROTID CYST DEVELOPING AT THE SITE OF INCISION MADE FOR THE REMOVAL OF THE LOWER JAW.—This is one of the three cases of removal of the lower jaw performed by me last month. In the first case the diagnosis was made of actinomycosis, which was found to be correct. The second case was found to be carcinoma. In this, the third case, I was not sure whether we had actinomycosis to deal with or a carcinoma. Having found that the body of the jaw was necrotic, I followed the same procedure as I did in the other two cases, first making a preliminary tracheotomy, then ligating the carotid artery, making a longitudinal incision along the body of the jaw, cutting through at the *symphysis menti* with a Gigli saw, and then cutting through the muscular attachments. This man, like the others, recovered. The face, as you can see, is rather symmetrical after so extensive an operation. The reason why this patient returns to us to-day is because he has a cyst appearing below the left ear. It has recently developed, and I presume it is the result of interference with the escape of the parotid secretion. A part of the scar is probably cutting off a part of the parotid gland and so producing an inclusion cyst; these cysts result from the damming up of the natural outlet of the contents of the gland. For instance, we often have inclusion cysts of the pancreas; inclusion cysts of the salivary gland; inclusion cysts of the thyroid gland, and of various parts of the body. There is nothing more common, perhaps, than inclusion cysts of the appendix. After one or two attacks of appendicitis inclusion cysts are apt to occur from the damming back of mucus. These cysts in the appendicular region are often quite large, and I have seen one as large as a Frankfurter sausage. The parotid is a very active gland, and a small cyst here is likely to become larger, because it would require a great deal of hydrostatic pressure to stop the function of the parotid parenchyma. Very little hydrostatic pressure is required to stop the function of the mucosa of the appendix, apparently, when it is the seat of mucus inclusion. This cyst will probably increase in size until it becomes very large.

The usual treatment is to draw off the fluid and inject tincture of



iodine; that is the older treatment, and it produces much more pain than the one I will employ here. In this case I will employ tincture of thuya. The action of this drug I have not studied accurately, but it has produced some remarkable results. Some of you will remember the case of nævus of the lip recently presented at this clinic. It was a very large nævus, and part of it was removed; but still there was left a mass as large as the thumb held under the nose. Strips of gauze were placed around it to hold it down and tincture of thuya was injected; in four days' time the nævus was a thing of the past. It caused an occlusion of the vessels of the nævus, which was followed by an interstitial exudation between the walls of the vessels so that they could not again fill up, and an excellent result was obtained. I have seen recurrent cases of epulis of the gums cured by injecting tincture of thuya; also, house-maid's knee; also, olecranon bursitis. I have not at the present time any classification of cases in mind in which tincture of thuya is particularly applicable, but I may say in a general way that it is of use in cases in which we formerly injected iodine or carbolic acid or astringents; here it excites a distinct change in the character of the tissue. What the nature of the change is I do not know. I consider this to be one of the most useful remedies for minor surgical cases. The tincture should be injected pure. It is apparently non-irritating, but acts more forcibly than tincture of iodine, without exciting so much reaction as tincture of iodine does.

*Member of the Class:*—Can it be used in hemorrhoids?

I am afraid to use injections in hemorrhoids because of the danger of embolism. I am aware that excellent authorities do sometimes use injections in hemorrhoids, but personally I am afraid of this injection method. I have had two cases of gangrene of the lung resulting from this method of treatment. Yet, I know that a large number of men are sometimes willing to inject hemorrhoids at the present time. Dr. Tuttle and Dr. Gant use this method in selected cases. I should think, if we use anything as an injection in hemorrhoids, the tincture of thuya would be good; but I prefer crushing hemorrhoids with Tuffier's angiotribe. The patient, operated upon four days ago, to-day asked to go home. The angiotribe crushes the nerves and produces no spasm of the sphincters; there are none of the painful symptoms in using this method, and there is no danger of hemorrhage or infection, judging from my present experience. The angiotribe is the best thing that I have used in the treatment of hemorrhoids. I use three thousand pounds pressure. Destruction of the blood-vessels and the nerves prevents the occasion of pain and the chances of sepsis; there is no open wound and, therefore, no infection. There are no thrombi to become dislodged.

Before proceeding further in this cyst case it is well to bear in mind the fact that we may have made a wrong diagnosis, and that this may be an abscess; my diagnosis is that it is an inclusion cyst of a salivary gland, the parotid. Again, I should not like to introduce a needle into an aneurism. There is no bruit, no expansile pulsation, and, therefore, no aneurism. I will now thrust in the point of the hypodermic needle; the point is now free, so I am in the cavity. I am withdrawing part of the fluid, which is clear and evidently saliva. After withdrawing the fluid I shall now inject a few minims of the tincture of thuya—*thuya occidentalis*, or *arbor vitæ*. This has the disagreeably strong smell of *arbor vitæ*.

CASE 4. PYORRHOEA ALVEOLARIS.—We have here a case of pyorrhœa alveolaris, or so-called Riggs' disease. There is an intense reddening of the gums about the teeth. It is very common. As fermentation or decomposition of saliva around the neck of the teeth progresses, there is a deposit of insoluble salts or a precipitation of these salts about the neck of the tooth, making so-called tartar, consisting of various phosphates and chlorides entering into combination. These salts keep the gum away from the teeth, and suppuration increases until the teeth become quite loose and fall out. This is the simple history in these cases. Several complications may occur. First, there may be a superficial necrosis of the bone of the inferior maxilla. When this occurs we have serous infiltration beneath the jaw, hard induration in the neck, sometimes with a gradual extension as far as the clavicle. In many instances there is not much necrosis, but a simple suppuration of the gingival membrane sufficient to give rise to a chronic infection. I have seen these cases where they were believed to be malignant growths; I have seen cases of this sort believed to be rare neoplasms. These are cases that often go the rounds of the profession without getting a diagnosis made. A poor fellow recently died in this hospital who had expended a great deal of money on four or five prominent men who made different sorts of rare diagnoses. The neck, the floor of the mouth, or diaphragm of the mouth below the tongue, was hard, indurated, the hardness extending to the larynx, the trachea, nearly as far as the first rib. It was a slow-developing process, going on for several months. Bacteriological examinations were made and sections cut out of the neck without result for the microscopist. Some gave Latin names to the disease, and some gave Greek names. When, at last, this poor fellow got to New York he was *in extremis*. When I saw him I referred him to an oral surgeon, but the patient died two or three days afterward. It was too late. This man died of pyorrhœa alveolaris simply because he had not seen a dentist instead of a physician at the outset. He had seen many good scientific men, but he had not gone to a dentist, as he should have done. These cases, when advanced, look like infiltrated carcinoma, yet without definite characteristics. A common complication of pyorrhœa alveolaris is infection of the lymphatic glands. It is not at all uncommon for the lymphatic glands to suppurate from infection focus at the neck of the teeth.

These cases of pyorrhœa are curable, although the text-books speak dubiously. Some dentists say that these cases are curable, although the majority of them say they are not curable. It is to the patient's best interest to get to those dentists who say that this condition is curable. They have cured many cases of mine completely. They first make a wide separation of the gum from the teeth; then there is a polishing of the neck of the teeth and perfect removal of the deposit of insoluble salts; then they cause a stimulation of the gums with some irritant so that plastic exudation is thrown out; then the gum is pressed against the neck of the teeth, and the plastic exudate thrown out from the gum forms adhesion between the teeth and the gums. These cases may go on for years without recurrence. In pyorrhœa alveolaris there is a little red line to be seen on the gum about the necks of the teeth. This man shows it very well. This man has excellent teeth—you will not see such fine teeth in a year—not



one defect. Yet, here is a redness about the neck of the teeth which shows that infection of gum has occurred.

CASE 5. ANCHYLOSIS OF ELBOW FOLLOWING AN INJURY—ANÆSTHESIA BY HYPNOSIS.—We find here that the bones are in good apposition. Let us compare the two elbows and we find that the external epicondyles are normal; that the condyles are equi-distant from each other. If I place my finger upon the cup-shaped head of the radius I find that it is in proper relation with the capitellum. My finger in one of the sigmoid cavities of the ulna notes that it slides properly upon the trochlea. I find the olecranon in proper relation. I note, too, that the temperature of the right side is higher than the left side. This boy's injury occurred several weeks ago, and I found at the last clinic that there were adhesions of the elbow-joint that limited motion here very decidedly. We usually give nitrous oxide gas in breaking up adhesions about the joint, but, in this case, we will try to break them up without an anæsthetic. I am going to try to hypnotize this lad. For this purpose I employ the very simple method of tiring the eyes by having him look at the head of a large pin thrust through an ordinary white card and held a few inches away from the eyes. The boy is now placed in a recumbent position upon the table. I tell him to look at this bright object, and when his eyes begin to tire I tell him he will feel drowsy; that suggestion is repeated until the eyes should close. He then should be told that he will sleep a little, and that suggestion is repeated until his breathing indicates sleep. He should then be told that he cannot open his eyes; if he tries and fails, he is then ready for further suggestions, and will not have pain when we break up adhesions if we tell him that there will be no pain.

These patients get eye-strain from watching the bright object intensely. The eye-strain produces a profound impression upon the centers at the base of the brain. Evidence of eye-strain is shown when the patient scowls, and our suggestion then begins. When the patient is ready for further suggestion you can make him do curious things—such as make him smoke a lead-pencil, under the impression that he is smoking a cigar. It is necessary to tell him that he will awaken in so many minutes, or at some fixed time. I have employed this method a great many times, but I do not do it except in case of necessity, because it weakens the patient's resistance to external impressions generally. A patient once a subject to this influence is certainly not so resistant afterwards, and he stands in a certain awe of the one who has practiced hypnotic suggestion upon him. I do not care to stand in such a relation to any man. These patients will often respond to the slightest wish expressed by any one who has hypnotized them. This is not a matter to be played with at all. When I first took up the subject it seemed easy to hypnotize children and a large proportion of adults, and I was tempted to employ it for minor operative work, for treating headaches, insomnia, and other nervous symptoms, and soon friends of the patients began to class me among the spooks. As a consequence I employ hypnotism very seldom, and only in those cases where we are justified in taking very serious steps for overcoming some difficulty. It is a dangerous resource and should not be undertaken, excepting by most responsible physicians. As in the case of this lad I sometimes feel justified in giving a clinical demonstration of the method, however, because hypnosis has a small legitimate field for application.

## THE QUARANTINE OF SHIPPING.

BY LAWRENCE IRWELL, M. A., B. C. L., of Buffalo, New York.

QUARANTINE, as the isolation of infected ships is called, is by no means an institution of modern growth, inasmuch as its origin has been traced to the fourteenth century, when laws enforcing it were promulgated by a Council of Health at Venice. These restrictions, so onerous to the shipping community, were introduced for the purpose of preventing the importation of infectious diseases by crews and passengers of ships arriving from "unclean" ports. It was in the first instance supposed that a period of forty days ought to elapse between the date on which a vessel sailed from a suspected seaport, and that on which those arriving on her might land at any other place without endangering the health of the inhabitants. The term "quarantine" itself is said to be a corruption of an Italian word meaning forty. In Pepys' diary there is an entry, dated November 26, 1663, to the effect that the spread of the plague at Amsterdam was the cause of all ships coming from there being compelled to undergo a quarantine of thirty days.

In recent times the period of close surveillance varies with the exigencies of each case, as set forth in a vessel's bill of health, which is a document bearing the signature of a consul, or other competent authority of the port which she last left. The interval of compulsory seclusion has been as short as two days, but under exceptional circumstances it has exceeded six weeks. Perfect quarantine is almost impossible; and imperfect isolation is worse than useless, as it does not effect the desired end, and only tends to disarrange the carrying trade of the country. The system at present in vogue seeks to give a maximum of safety with a minimum of inconvenience.

The United States regulations, promulgated in April, 1894, obviate the detention of incoming vessels and passengers in so far as this is compatible with the practically absolute exclusion of contagious diseases, which is, of course, their paramount aim. As a means both to prevent delay and to exclude infection, quarantine officers are stationed at all foreign ports of departure, and every vessel leaving such a port for this country must have a bill of health from the proper United States official setting forth the sanitary condition and history of the ship, and stating that it has complied with the regulations. There must be a personal inspection by the officer of "all vessels from ports at which cholera prevails, or at which yellow fever, small-pox, or typhus prevail in epidemic forms," and also of "all vessels carrying steerage passengers." In addition, all ships must be thoroughly cleaned before receiving cargo, crew or passengers; the bedding for steerage passengers must be renewed or disinfected prior to being used; and if any case of infectious disease occurred on the last voyage, every part of the vessel that could possibly have been infected must be disinfected. The rules concerning the cargo vary, according to its character.

The treatment of passengers depends upon whether they belong to the cabin or the steerage; but nobody with cholera, small-pox, yellow, typhoid or scarlet fever, measles or diphtheria is allowed to embark on a ship, nor



are such persons received at an infected port. The weekly reports of the consular officers keep the government well informed as to the exact sanitary condition of all ports of departure and the districts adjacent thereto or in direct communication with them.

The regulations require, upon the part of ships' officers, a daily inspection of the vessel, and thorough cleanliness of every part of it, as well as isolation of all sick persons. At the port of entry all the delay involved is that which will enable the proper officials to inspect the ship, the crew, the passengers, the bill of health, and the physician's record-book. The inspection having been completed, and everything having been found satisfactory to the officer, he fills out his certificate, which, together with the bill of health from the official at the port of departure, must be given to the collector of the port. Without these two papers no ship is permitted to disembark any of her passengers. Should there be any ground for belief that there is infectious matter on board, the inspector orders the vessel to proceed at once to the nearest quarantine station, there to undergo treatment.

The government provides for the maintenance of this inspection service at every point of entry under its jurisdiction throughout the year, and it is applicable to all vessels from foreign ports; to all vessels with any sickness on board, or in which sickness has appeared since leaving the port of departure; and to all ships from domestic ports where yellow fever and small-pox are of frequent occurrence. The last-named disease is not as prevalent in the Southern States as it formerly was, even in the height of summer. To the above-named requirements the proper State authorities may add such others as may seem to them advisable or necessary.

Cholera, yellow fever and "the plague" are the three principle disorders against the spread of which quarantine is specially directed. The latter is not very often heard of either here or in Europe, but it made its appearance in Russia in 1878. It is a zymotic complaint dependent upon poisonous atmospheric conditions, the blood being attacked by a micro-organism or by some other form of *materies morbi*. This disease somewhat resembles typhus fever, the propagation being by direct or indirect contagion. As soon as it had made its appearance in the year named, most civilized nations adopted the rule of subjecting all vessels coming from Russia to a quarantine detention varying between twenty and forty days.

Yellow fever has its breeding-places in the West Indies, the southern parts of this country, the northeast districts of South America, and the west coast of Africa. It requires fairly hot weather for development, and cannot thrive where the temperature is below 75° F. This fever has reached Europe more than once, but is, nevertheless, an exotic. The English city of Southampton has had it in consequence of being a place of call for West Indian steamships; and Cardiff, in Wales, suffered from it some forty years ago, when the advantage of modern sanitary supervision over old-fashioned quarantine was most marked.

At the end of 1889, the dread of yellow fever caused most stringent quarantine to be enforced by the United States government against all arrivals from Brazil and other fever spots. Some ships were refused entrance upon any terms whatever; and editors of shipping publications were constantly being asked whether, on these circumstances, a ship-

owner might throw up his charter and send the detained vessel to seek for freight elsewhere.

It has been demonstrated that yellow fever may be restrained within bounds by completely isolating the sick; that strict sanitary precautions limit the severity of an attack; and that a fall of temperature is followed by an immediate decrease in the number of persons attacked. An international system of sanitary surveillance over arrivals from all ports is, however, in all probability, the only practical method of preventing the spread of an epidemic from port to port. Cholera made its appearance in London, England, in 1873, but the sanitary authorities very quickly suppressed it.

To cater for a large steamship is, of course, under any circumstances, expensive; and when one is quarantined, an unexpected expenditure for passengers' food occurs. Further, the ship is idle and the owners have to suffer the loss, its amount being dependent upon the length of time the quarantine lasts. The longest period within the writer's present recollection was the detention of a South African steamer at Cape Town for three weeks in consequence of a case of small-pox having occurred during the voyage from England.

It must be admitted that the prolonged detention of the sick and the healthy on board an infected ship often fails to attain its supposed object. There is no reasonable doubt that fear disposes many persons to disease; and being detained upon a ship with dying fellow-creatures is by no means conducive to strong nerves and longevity. Up to now it has not been found possible to strictly enforce quarantine regulations on land, a point of importance to this country on account of its proximity to Canada and to Mexico. It is not improbable that in the future the quarantine of ships will be confined to three diseases—the plague, yellow fever, and cholera—sanitary precautions being sufficient to stamp out other disorders.

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**Drago-Catania**, in *Medicina Moderna*, speaks of the effects of subcutaneous injections of Koch's salt solution. Weak solutions act the same as distilled water: increase in the fluidity of the blood, destruction of hæmoglobin, changes in the blood corpuscles and no change in the blood platelets. Medium solutions cause changes in the skin; strong solutions can cause death with symptoms of collapse; they change the isotonia of the blood. They can also cause hydrocephalus acutus, and animals will die with symptoms of cerebral edema. A drop in the bodily temperature ensues with the approach of death. Middle and strong doses lead to a decrease in the fluidity of the blood, with hyperleucocytosis. The appearance of indican and urobilin, of course, stands in relation to the destruction of the blood corpuscles.



## BERLIN LETTER.

Berlin, one of the leading medical centers of Europe of to-day, is at present thronged with American post-graduates. American medical men can be seen in every lecture-room, in every clinic and in many laboratories of the city. The regular university courses are now on, and receive quite a number of American students. The Universität Friedrich Wilhelms, at Berlin, requires that every man who wishes to take any university medical course must be a matriculant of the university. This rule probably holds good in no other school in Europe. There are many private courses here, however, which, for the majority of men who come here, offer better opportunities for individual work than do the university courses.

One of the most celebrated clinics here is that of the surgeon, von Bergman. It is no uncommon sight to see, for example, from fifteen to twenty cases of one kind or another of surgical disease or operation in one afternoon of his clinic. The other day he brought out about fifteen cases of carcinoma of the breast, and the spectator had a chance to see three operations going on at the same time. Ohlshausen, too, holds a famous gynecologic clinic at the "Frauenclinic." His auditorium is always thronged with students. He is an expert diagnostician and operator, and is possessed of superior technique.

Among the internal medical men, von Leyden and Gerhardt carry off the honors here at the Charité Hospital. They are both masters of their craft, and one can sit for hours in rapt attention, listening to their practical, scientific talks on medicine.

The man to whom the writer most enjoys going is Prof. Mendel, who holds a nervous clinic four times weekly. At the first lecture of the year this "grand old man of neurology" talked on tremor. During the course of his talk he illustrated every form of tremor, every subdivision of tremor, with a case at hand. He is a man of unassuming mien; but, after a few minutes' attention, one realizes that he is possessed of neurologic knowledge which can hardly be compassed. I am of the opinion that he is as near perfection as a clinical teacher of medicine as any man can possibly be. His lectures are a treat. Every Saturday afternoon he delivers a lecture on the anatomy of the brain. Each student is supplied with a plaster mold of the brain. In addition to this help, the lecture is illustrated with sections of the brain shown by means of a projecting microscope. No student should leave Europe without having heard Mendel.

Oppenheim, too, although not having as many clinical cases as Mendel, is an excellent neurologic teacher. And so is Jolly and so is Goldscheider. Clinical material in Berlin is very abundant, and is so handled for teaching purposes that the student gets the full benefit of it.

There is one objection to medical study in Berlin, as compared with study elsewhere, and that is the fact that the clinics and hospitals and laboratories are scattered here and there over the city, so that much time is lost going from place to place. For a "hustling" American, however, this does not make much difference. Opportunities for gross pathologic-anatomic study are excellent here. Here the "Virchow" school of pa-

thology holds forth. You can hear the old man himself; or Israel, or Langerhans, or Oestreich, all of them pupils and followers of Virchow. Virchow still holds forth at the Charité, and is as vigorous a teacher as ever. The flame of science is still burning brightly for him. No man can tell, though, when it will flicker and die.

R. B. H. GRADWOHL.

Berlin, Prussia, November 8, 1900.

**Ancient Hospitals.**—Hospitals and ambulances have for obvious reasons come recently prominently to the front; people who formerly never even gave the subject a passing thought have now become interested in the treatment of the sick and wounded in war. The institution of the hospital as we know it at the present day, with its regulations and rules, did not exist in the earliest times, nevertheless houses or establishments for the reception of the sick can be traced back to the early Jewish period. The earliest of these were known as Beth Holem, or houses of the sick; such a Beth Holem was Beth-Saida, famous in the New Testament Scriptures. This institution was supported by voluntary contributions, as the word "Saida"—charity—naturally expresses. These hospitals were mostly situated round a pool, the waters of which were considered to be efficacious for various diseases, especially gout and rheumatism. The attendants in charge of these establishments were, as we know from the Scriptures (John, chap. v., 2-7), expected to help the patients into the water. This kind of institution may be looked upon as the foundation of hospitals. They were, however, usually of a very primitive construction, mostly consisting of a few wooden huts. In ancient Egypt hospitals were unknown, the sick being mostly attended to in their own homes, or, in case of the very poor, at the various temples in the city to which they belonged. The Greeks, however, appear to have been better supplied with institutions of this kind. Plato says that there existed in various parts of the country shelter houses for the sick. These institutions were, as Thucydides has observed, supplied with attendants who waited upon the sick. It has been asserted that the ancients had no such attendants, because no pagan would wait upon a stranger in cases of sickness; this, however, seems to be contradicted by the well-known case of the Samaritan (Luke x., 30-35). Here was a man who had been attacked by thieves left by his own countrymen, and, moreover, priests, to die by the wayside, who was seen by a man of a country with whom his own kindred were at enmity. The foreigner seeing the man from Judea in trouble, not only attended to him, but even helped him to mount his own ass. Many instances of a similar kind could be cited from ancient authorities. It is probable that the best hospitals of antiquity were those established in Rome. For some years it was doubted whether the Romans had such institutions, but a large tablet which was discovered near Piacenza, dated in the reign of Trajan, has shown that not only did they possess such institutions, but that they were actually endowed. One of the earliest hospitals on record was probably that founded by Valens in Cæsarea between the years 370 and 380 A. D.

—*Physician and Surgeon.*



## SURGICAL SUGGESTIONS.

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**Bartz** operated upon a case of spina bifida with fair results, following the method of Schmidt. The sac was first dissected free and then punctured; the sac was then sewed up over a sound, which was placed upon the edges, which fell together after the puncture. The plastic results were good; the *incontinentia alvi et urinæ*, however, is still present.

**W. Mueller**, of Aachen, operates on cases of spina ventosa by cutting out the whole metacarpus and transplanting a piece of the ulnar bone into the space. Mueller also reports a case of operation for sincipital encephalocele. The position of the fluid was like an aneurismal sac, vaulted over, leaving a cavity. Fair result followed. The only difficulty about the operation was the fact that there is a tendency for the cerebral lobes to become thinner and thinner.

**Frank**, of Cologne, also reports cases of spina ventosa of adjacent metacarpal bones where the repair was made by heteroplasty. Pieces of bones sterilized, taken from a fresh amputated member, were put in place of the extirpated metacarpi. The ultimate results are not published.

**Jacobs**, of Antwerp, has devised an instrument for dilatation of strictures of the *œsophagus* and *cardia*, which he claims is of great practical utility. It acts through forced dilatation. He claims that there is no danger of injuring the wall of the tract through the use of this instrument, basing this statement on experiments made on the dead body.

**Fort**, of Paris, treats strictures of the *œsophagus* by linear electrolysis. He also treats organic strictures by forced dilatation.

**Champonniere** lays down two rules in operating for crural hernia: 1. Complete opening of the sac with stretching of the cribriform fascia so that the infundibulum of the sac may be reached. 2. Complete closure of the ring from below upwards.

**Bladder complications** in appendicitis cases are of two kinds: either reflex, or ensuing as a consequence of extension of the inflammation. Those of reflex origin are bladder retention of urine, *incontinentia urinæ*: the other consist of pericystitis, bacteriuria, peri- or intra-vesical abscess, hemorrhages, secondary stone formation, fistulæ.

**Ullman**, of Wien, gives some interesting experiments along the line of intestinal transplantations and anastomoses. His work was done on swine, whose intestines resemble those of man more than any other animal. Portions of the stomach, duodenum, jejunum, transverse and ascending colon were transplanted from one animal to another. The animals lived and were killed some months after the operations, showing good healing of the apposed surfaces.

**Psaltoff**, of Smyrna, adds his voice to those who advocate laparotomy in peritonitis tuberculosa. He operated on forty cases with successful results.

**Intubation** in private practice should be practiced in preference to tracheotomy, even if continuous medical supervision cannot be exercised, under following conditions: (*a*) If the patient cannot be removed to a hospital; (*b*) if suffocation is imminent; (*c*) if the relatives decide for intubation against tracheotomy after the comparative advantages of both have been explained; (*d*) if all other precautions for the safety of the patient have been taken. Intubation should be an early operation, as the results are better if the strength of the patient has not been exhausted.

Tracheotomy should only replace intubation if these conditions cannot be fulfilled, or if intubation has failed to give relief.—*Wes. med. Woch.*

**High incisions** for tracheotomy should not be made. With such an incision there is liable to be difficulty in removing the tube later, as sub-glottic inflammation and mechanical immobilization of the parts may interfere with the resumption of normal breathing. The incision should never be made through the cricoid cartilage, but always lower down, best on the second ring of the trachea. The tube should be removed as early as possible.—*MOURE, Bul. de Ac. Med., Paris.*

**Sterilization of Hands.**—Pierre Delbet, after a series of experiments, concludes that it is possible to render the hands sterile even after contact with septic matter. He washes his hands in very hot water—not flowing, but in a basin, to get a very good soap solution. This he keeps up for ten minutes, changing the water once. He then brushes with ninety per cent alcohol until a bichloride solution stays even over the whole surface, showing a complete removal of fat. He ends by immersing the hands in 1-1000 bichloride for one minute. This method he considers equally sterile to operating with rubber gloves.

**Operations Without Contact of Fingers.**—Koenig, after considering the methods of sterilizing the hand, concludes that sterilization of hands is impossible, and that in order to attain an absolutely aseptic field of operation the operator and his assistants should avoid touching any wound with their fingers. He claims that all operations with the exception of abdominal can be done without touching the tissues with the hands, and advises a special training of the assistants to this idea, an increased amount of retractors, and longer handles for the instruments. With practice it is easy to avoid all digital contact. Where direct contact is necessary it should be done through aseptic gauze.—*Centb. der Chir. Leyric.*

A good finger-guard for intubation may be extemporized by winding adhesive straps around the finger and including a narrow long strip of wood both on the palmar and dorsal surface of the finger. Pasteboard, which is more pliable, is not as safe, as it has been bitten through during convulsions.—*Archive de Med. des enfant.*





**Studies in the Psychology of Sex.** The Evolution of Modesty. The Phenomena of Sexual Periodicity. Auto-Erotism. By HAVELOCK ELLIS.  $6\frac{3}{8} \times 8\frac{1}{2}$  inches. Pages xii-275. Extra Cloth, \$2.00, net. Sold only to Physicians and Lawyers. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia.

This volume contains three studies entitled respectively: "Evolution of Modesty," "The Phenomena of Sexual Periodicity," and "Auto-Erotism." These are very complete in themselves, and are merged into each other with a commendable degree of clearness. The book is well worth reading.

**Physicians' Manual of Therapeutics.** Referring Especially to the Products of the Pharmaceutical and Biological Laboratories of Parke, Davis & Company, Detroit, Michigan. 1900.

An invaluable manual to physicians who depend especially upon the preparations, pharmaceutical and biological, of that popular house—Parke, Davis & Company—and of special value and interest to any physician. No secret remedies are mentioned, full formulæ being given. The utility of this work appeals strongly to the busy practitioner, who will find it a great convenience.

**A Treatise on Diseases of the Nose and Throat.** By ERNEST L. SHURLEY, M. D., Professor of Laryngology and Clinical Medicine, Detroit College of Medicine; Laryngologist to Harper's and St. Mary's Hospitals; Consulting Laryngologist to Woman's Hospital, etc. Seven hundred and twenty-five pages. Illustrated. D. Appleton & Co., 72 Fifth avenue, New York. 1900.

A volume intended for the general practitioner and student rather than the specialist, although the latter should have access to it. This is a very practical work, clearly written and well illustrated. The therapy of diseases described receives especial attention, giving due attention to different phases of treatment. An extensive formulary and chapter on local treatment closes the volume.

**New Therapeutic Reference Book for Physicians and Students.** By WILLIAM R. WARNER. Cloth. 236 Pages. 25c. W. R. Warner & Co., Philadelphia, New York, Chicago, London, Rome.

A very useful book for the busy physician. All diseases are arranged in alphabetical order, with outline of treatment. The present edition has been thoroughly revised.

**Saunders' Pocket Medical Formulary.** With an Appendix Containing Posological Table, Formulæ and Doses for Hypodermic Medications, Poisons and Antidotes, etc., etc. Price, \$2.00. By WILLIAM M. POWELL, M. D. Sixth Edition. 1900. Philadelphia: W. B. Saunders & Co. Lewis S. Matthews & Co., 714 Pine street, St. Louis, Agents.

The present volume is the sixth edition of the most popular medical formulary published in this country. The work has been fully revised and several hundred new formulæ added, and the dose-table brought up to date.

**Manual of the Diseases of the Eye.** For Students and General Practitioners. 23 Illustrations and 12 Colored Figures. By CHAS. H. MAY, M. D., of New York City. William Wood & Co., New York, Publishers.

This little manual will be of value to the student, as the author has said enough, but not too much, for the purpose of a manual. For the practitioner, however, we would recommend a more exhaustive work, such as "Diseases of Eye" (De Schweinitz), or "An American Text-Book of Diseases of the Eye, Ear, Nose and Throat."

**Atlas and Epitome of Gynecology.** By DR. OSKAY SCHAEFFER, of the University of Heidelberg. Edited by RICHARD C. NORRIS, A. M., M. D. With 207 Colored Illustrations on 90 Plates and 62 Illustrations in the Text. 272 Pages. Price, \$3.50. W. B. Saunders & Co., Philadelphia. Lewis S. Matthews & Co., St. Louis, Agents.

This book is especially valuable on account of the excellent illustrations—a point of special importance to the student. It is much better than the quiz compend and more easily available than the larger gynecological works. The colored plates are accurate and add greatly to the work. We predict a large sale for this book.

**Ballinger and Wipperrn on the Eye, Ear, Nose and Throat.** A Pocket Text-Book of Diseases of the Eye, Ear, Nose and Throat. For Students and Practitioners. By WILLIAM L. BALLINGER, M. D., Assistant Professor of Otology, Rhinology and Laryngology in the College of Physicians and Surgeons, Chicago, etc., and A. G. WIPPERN, M. D., Professor of Ophthalmology and Otology in the Chicago Eye, Ear, Nose and Throat College. In one handsome 12mo volume of 525 pages, with 150 Engravings and 6 full-page Colored Plates. Cloth, \$2.00, net; flexible red leather, \$2.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

This is a very satisfactory work for student or general practitioner.



## MEDICAL TREATMENT.

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**Diseases Made to Order.**—As a distinct etiological factor in the widespread prevalence of neurasthenia as a distinctly American disease, the practice of quackery as it is permitted in this country must be seriously considered. Medical charlatans acquire their ill-gotten gains by the imaginary cure of imaginary diseases, therefore it behooves them to use every means at their command to convince people that they are afflicted with ailments which in reality do not exist. The mischievous, lying and indecent advertisements which are foisted upon an indulgent and gullible public by these pirates of modern times are plainly so constructed as to entangle in their vicious net the healthy as well as the sick. The description of trivial symptoms, or even of physiological conditions, and their interpretation of them as evidence of serious disease, is one of the most common and one of the most reprehensible practices of these unprincipled fakers. Many nervous and susceptible persons have their imaginations so worked upon by the misleading statements of quacks that they become confirmed neurasthenics, dragging out miserable existences, instead of enjoying the health which is theirs by nature and by right.

The writer has in mind a case recently treated in a local hospital. A young man, aged twenty-two, was brought in for treatment. The subjective symptoms, as related by the patient, seemed quite severe. He said that he had a bad case of heart disease, a terrible headache and gastritis, and a large, painful swelling on his right heel; besides other symptoms too numerous to mention. Examination showed a small swelling at the lower attachment of the tendo Achilles—a simple synovitis. There was absolutely no other physical sign of disease, and the patient appeared to be as healthy and robust a young man as could be found anywhere. Close questioning elicited the fact that a couple of years ago, the patient had a similar swelling on his heel, for which he consulted a physician who proclaimed himself in the public prints to be the greatest living surgeon. This eminent person gave the patient a thorough examination, inquiring especially about his sexual condition and injuries received from falls. He elicited the facts that the patient had occasional nocturnal losses of semen; that his heart beat rapidly after exertion, and that he once fell and struck his head. The great man then told him that the lump on his heel was due to heart disease; that he was afflicted with "lost manhood," and that his head needed fixing. The swelling on his heel subsided in a few days, but treatment for the imaginary complications was continued until the patient was entirely separated from his money. Since that time the lump on his heel has recurred at intervals, always bringing with it a train of most distressing symptoms, which persist long after the synovitis has disappeared.

This is just one instance of what can be accomplished in the way of manufacturing disease out of the whole cloth, and every physician can doubtless recall many similar cases. If preventive medicine is to be the order of the day, it would be well for our lawmakers to awake to the fact

that a little legislation against quackery would do much to eradicate neurasthenia—one of the most distressing diseases of modern times.

**Practical Laboratory Work.**—It can be safely stated that not one physician in ten ever makes use of ordinary laboratory methods as aids in diagnosis. This charge applies more especially to physicians practicing in the country and small cities, where the proportion of unscientific practitioners is even greater than above stated; but it also applies to physicians in larger centers of population, where laboratory advantages may be easily secured. The older members of the profession excuse themselves on the grounds that during their student days they received no instruction in the arts of laboratory diagnosis, and are therefore incompetent to do such work; and even recent graduates rapidly forget their laboratory training in their eager efforts to obtain the almighty dollar with the least possible amount of labor.

A great deal of this failure to use proper diagnostic methods is due to mere laziness, or to lack of interest in progressive medicine. On the other hand, there are many conscientious practitioners who fail in this respect because of a mistaken notion of the skill and experience necessary, or of the expense involved. It must be remembered, however, that in order to get solid practical results in a laboratory it is not necessary to be a finished pathologist or bacteriologist, nor is it necessary to have all the paraphernalia which a scientist might make use of in a laboratory. In fact, the technical knowledge required is limited and easily acquired, and the necessary apparatus (exclusive of a microscope, which every physician should have) is inexpensive.

The laboratory work which a general practitioner should reasonably be expected to do, and which he certainly should do for his own information and for the good of his patients may be resolved into a bare half dozen important processes, viz.: the examination of urine for albumins, sugar and sediments; the detection of the tubercle bacillus, gonococcus and bacillus of diphtheria; and the examination of the blood for the plasmodium of malaria, and for the Widal reaction.

For a person unfamiliar with laboratory methods, one or two good text-books are essential, and if directions as to technique be carefully followed, errors need not be made. In this connection we will mention what are probably the best and easiest methods for staining the micro-organisms above mentioned—methods which are not mentioned in the text-books.

I. GABBET'S STAIN FOR TUBERCLE BACILLI.—1. Stain two minutes, without warming, in fuchsin 1 gm., alcohol 10 cc., 5 per cent. ac. carbolic 100 cc. 2. Wash in water. 3. Stain one minute in methylin blue 2 gm., 25 per cent. sulphuric acid 100 cc. 4. Wash in water. Dry and mount. The bacilli will appear red in a blue field.

II. NEISSER'S STAIN FOR DIPHTHERIA BACILLI.—Sol. 1. Methylin blue 1 gm., dissolved in 20 cc. of 95 per cent. alcohol, mix with 900 cc. distilled water and 50 cc. glacial acetic acid. Sol. 2. Bismarck brown 2 gm., dissolved by boiling in 1000 cc. distilled water. Stain in solution 1 for fifteen seconds, warming slightly. Wash and stain in solution 2 for five seconds. Wash, dry and mount. Body of bacillus will stain brown, with blue spots at ends.



III. STAIN FOR GONOCOCCUS.—1. Stain three minutes in weak alcoholic solution of eosin. 2. Dry with filter paper. 3. Stain one minute in aqueous solution methylin blue. Wash and mount. Gonococcus will stain dark blue, protoplasm of cell pink, and nucleus light blue.

IV. JENNER'S STAIN FOR PLASMODIA:—1. Take equal parts 1.2 per cent. aqueous solution yellow eosin, and 1 per cent. aqueous solution methylin blue. 2. Mix, and let stand twenty-four hours in open air. 3. Filter; dry residue twenty-four hours below 60° C. 4. Dissolve in 3 ij water. 5. Filter; dry residue twenty-four hours below 60° C. 6. Add 40 cc. water, drop by drop. 7. Dry, and when ready for use make  $\frac{1}{2}$  per cent. solution in methyl alcohol. Red corpuscles will stain brown. Plasmodia will stain light blue with dark granules. Leucocytes will take blue stain.

The Widal reaction requires for its accomplishment some little outlay of time and money, because it is necessary to have on hand culture media and an incubator of some kind. It is hardly to be expected that every practitioner should be fitted with the means for this test, but there should be in every fair-sized community at least one person who can make it, and who should be consulted in all cases where typhoid is suspected.

There is absolutely no excuse for the wide-spread disregard of these valuable laboratory aids to clinical diagnosis, and any physician who will take the time and trouble to use them will be amply repaid, by feeling that his work is accurately done and much guess-work eliminated.

**Heroin in Bronchitis.**—Heroin is described as the diacetyl-acid-ester of morphine, and since its introduction two years ago has been very extensively tested by the profession. The consensus of opinion is that heroin is the agent *par excellence* for controlling excessive cough, and that it differs from morphine in that its effect on the respiratory organs is stimulating rather than depressing. Reports also state that it does not constipate and is free from unpleasant after-effects and exercises its therapeutic activity in doses of from one-half to one-fifth grain.

Dr. Morris Mangers, in the *New York Medical Journal*, states in the relief of the cough of acute bronchitis heroin acted very promptly, as a rule, and not alone was the cough relieved in a very short time, but also the whole general condition of the patient was rapidly improved.

The cough of chronic bronchitis reacted favorably, as a rule, to heroin, but the results were not constant. This difference depended in a large measure on the effect upon the bronchial secretion. Where this was diminished the patients complained of the drug. This effect, however, was corrected by combining it with potassium iodide or terpin hydrate. Others preferred combinations with squills, ipecac, etc.

## NEW REMEDIES.

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**Amenorrhea, Dysmenorrhea, and Kindred Disorders Treated With Ergo-Apiol (Smith).**—In the treatment of amenorrhea, dysmenorrhea, and kindred disorders, a practical experience of a number of years has convinced me that ergo-apiol (Smith) leads all other emmenagogues in points of efficiency, certainty in action, and rapidity of results.

Other remedies I have used I have found at least to be very uncertain in their action, and a few successive failures not only cause the physician to lose faith in the value of the preparation, but also cause the patient to lose confidence in the physician. In the use of ergo-apiol (Smith) I have yet to meet my first failure. The following cases will give an idea of its merits:

CASE 1.—M. G., age nineteen; had never menstruated, very anæmic, suffered irregularly from severe pains in the abdomen; local examination gave negative results. I prescribed one capsule of ergo-apiol (Smith) every four hours, and three days later menstruation began, and has been regular ever since.

CASE 2.—L. D., female, age nineteen; primipara; had not menstruated since confinement, a period of ten months; had tried various emmenagogues without results; consulted me April 27th last; was given ergo-apiol (Smith) in doses of one capsule three times a day. Menstruation began on the 30th; was absolutely painless and normal in every respect.

CASE 3.—M. J., age twenty-two, unmarried; had suffered from dysmenorrhea for several years; had been treated by specialists, but received no benefit. Examination disclosed no displacement, stenosis, or structural cause. Patient was given ergo-apiol (Smith), four capsules daily, and has since had no return of the pain, and menstruates regularly.—Dr. W. A. WEIGHTMAN, New York City, in *Obstetrics*.

**Winchester's Hypophosphites of Lime and Soda.**—This is a chemically pure solution *without* syrup, and is the formula of Dr. Francis Churchill, long identified with the Imperial Academy of Medicine, Paris. It is a valuable vitalizing tonic, causing no acidity of the stomach, griping or other unpleasant symptoms. Patients convalescing from wasting diseases will find this preparation of unusual merit.

**Electro-Medical Batteries.**—On advertising page 40, this publication, Mr. P. G. Williams offers our readers a double cell dial battery at a special price. The battery is a superior instrument. It has a slate base, two dry batteries—no liquid to bother the busy practitioners; dial registering amount of current specially desired; it is not only a valuable instrument for the physician's office, but a desirable one for the patient because of its simplicity and ease of regulation.

**NuTone.**—NuTone is a preparation of cod-liver oil combined with extract of malt, beef juice, glycerine and the hypophosphites of lime and soda.

NuTone contains twenty-five per cent. of pure Norwegian cod-liver



oil, with which is combined pure extract of malt, beef juice and glycerine emulsion, so that it is practically a twenty-five per cent. combination. Each teaspoonful of nutone also contains one grain each of the hypophosphites of lime and soda, and one drop of tincture of nux vomica.

NuTone is intended to be used for all purposes for which cod-liver oil or cod-liver oil emulsions are prescribed, and it has even a wider range of usefulness. The points worthy of special consideration are the palatability and digestibility. The nourishing and flesh-producing qualities of the beef together with the tonic-digestive properties of the malt, hypophosphites and other ingredients combine with the cod-liver oil to make nutone a unique and powerful reconstructive agent, which well merits a careful trial by the conscientious physician.

**Antiphlogistine in Pneumonia.**—Applied hot in pneumonia, pleurisy, peritonitis, and other internal inflammatory conditions, antiphlogistine maintains uniform heat for thirty to thirty-six hours, and exercising its hygroscopic power draws the watery part of the blood to the surface and to an extent through the skin, thus greatly relieving congestion and pain.

Antiphlogistine is composed of chemically pure glycerine, boracic acid, salicylic acid, iron carbonate, peppermint, gaultheria, eucalyptus and iodine, combined with the base, dehydrated silicate of alumina and magnesia. It is antiseptic and soothing, and because of its peculiar properties has a wide range of application in various inflammations. Our readers will find it particularly valuable in pneumonia and grippe-pneumonia.

**Plasmon as a Nutrient in Typhoid Fever.**—Tradition and the accepted teachings of the day forbid the administration of solid food in typhoid until after the temperature has fallen to, and remains for about ten days at, the normal point. What nutrient is there that can with safety be given to sustain the patient even before the prescribed period, and during the early stage of the fever? There can be but one answer to this question, viz.: Plasmon, a pure, soluble milk-albumin. Plasmon will take the place of all other nutritious foods. It is a colorless, dry powder, free from odor and taste, and is undoubtedly a valuable nutritive agent. I usually give it in teaspoonful doses in five ounces of water every alternate hour. It is assimilated without difficulty and produces no rise in temperature, even in the early states of typhoid. It is accepted without discomfort by the most sensitive stomach, and does not cause any rise in temperature, even in the early stages of fever. This statement is borne out by Dr. William Murrell, of London, who in an article (*The British Medical Journal*, June 2, 1900) giving the history of a case of prolonged enteric fever which came under his care in November, 1899, says:

On January 13th a more liberal dietary was adopted, and the patient was ordered, in addition to his milk, a teaspoonful of plasmon every alternate hour. This was taken without difficulty; there was no rise in temperature and the bowels were moved only once in the twenty-four hours. *This was practically the turning-point in the patient's illness.* The plasmon was continued for a week, and at the expiration of that time the patient was given solid food. It was not, however, until January 20th, the eighty-first day, that the temperature fell to normal. From this day his appetite became ravenous, and on January 23d his dietary consisted of chicken and potatoes, beef tea (twelve ounces), bread, four eggs, custard pudding, plasmon (six ounces), milk (ten ounces), brandy (four ounces), and port (four ounces). He was allowed up for the first time on February 8th, the one hundredth day of his illness.

**Distilled and Filtered Water.**—The value of distilled water over the filtered solution is now generally recognized by scientific men. The former is chemically and bacteriologically pure, while the latter is but little more than a strained solution, and when boiled for surgical purposes will give a more or less decided precipitate. The progressive hospitals of the country are discarding filters and putting in stills. The Jewell Water Still Company, of Chicago, can give you further information in this line.

**The Ka Phenin Chemical Company** of Waverly, Iowa, will send a two-ounce can of ka phenin, an antipyretic and analgesic of superior merit on approval, and if after thirty days' time the physician is satisfied, he can remit \$1.00; or, if dissatisfied, by returning empty can he will be credited in full. This is certainly a generous offer and gives our readers opportunity to test thoroughly this promising candidate for favor.

**The New Treatment of Syphilis With Bin-iodized Oil.**—(By Dr. P. Chapelle, Paris). The "specific bin-iodized oil," recommended by Panas, Dieulafoy, Lancereux, Brissaud, Fournier, and the leading specialists for the diseases of the skin, is a very dilute and unsatisfactory preparation, but a great improvement in the administration of mercury has been recently made, by utilizing the solubility of nascent mercuric iodide in a strictly neutral aseptic oil, which keeps indefinitely.

This "specific bin-iodized oil," which contains one per cent. of  $\text{HgI}_2$ , has been aptly called cypridol (a name which gives no clew to the patient or to those around him as to the nature of the medicament), can be used either hypodermically or taken in capsules.

Cypridol is vastly superior to the usual soluble or insoluble mercurials, the assimilation and subsequent elimination of which is uncertain, while salivation, vomiting and diarrhoea are amongst the least of their disadvantages.

Since Ricord's time, insoluble mercurial treatment has been largely adopted on account of the severity of the soluble salts, but their assimilation is slow, irregular, and gives rise to considerable trouble in the alimentary canal, even when given in combination with small doses of opium.

All disadvantages of this nature, which are inevitable with soluble and insoluble mercurial preparations, are avoided with cypridol, which does not affect the stomach or digestive organs and rarely produces salivation even in massive doses. It is conveniently exhibited in capsules of twenty centigrammes, each of which represents exactly *1-32nd of a grain of mercuric iodide*.

One capsule should be taken with the two principal meals daily, and this dose may be increased to five capsules daily, but should not be exceeded, except under special conditions dependent on the susceptibility of the patient to the treatment.

Our experience in the clinics shows that it is advisable to commence the treatment of the capsules or injections of cypridol (or to alternate their administration) as soon as syphilis is recognized and to continue it for three consecutive years, even if there is an apparent cure after a short time.

During the first three months the treatment may be suspended eight days every month, during which interval small doses of iodide of potassium, sodium or strontium are given.



For the following three months the cypridol treatment should be administered every alternate fortnight, and after that eight days of each succeeding month.

This radical treatment with cypridol will insure the patient's permanent cure; it is indispensable, however, to maintain the best hygienic conditions of life.

Frequent but not too prolonged hot baths, washing, to free the skin from irritation, are useful, and care should be taken to keep the buccal cavity exceptionally clean by careful washing and gargling of the throat with boracic acid and chlorate of potassium. An ointment of the same should be used to anoint the genital and anal orifices.

The great antiseptic and antizymotic value of cypridol can be utilized in a great number of cases.

It constitutes an excellent specific for bacteriological affections or parasites of the alimentary canal, the skin and the scalp, and is indicated in the treatment of serous affections, fistulas, cold abscesses, white tumors (in hip, knee, ankle), lupus, spina ventosa, and other manifestations of tuberculosis.

Successful experiments have been made in the Paris Hospitals on neoplasms, anthrax, furunculosis, paludal intoxication and in the great majority of epidemic diseases.

**Bovinine.**—The blood-forming action of bovine is well shown by the following cases treated at a local hospital:

CASE 1.—*Anæmia Following Malarial Fever:* After four weeks' treatment of bovine the red blood corpuscles had increased from 2,566,400 to 3,582,000 per cubic millimeter.

CASE 2.—*Anæmia:* Bovine administered for three weeks showed increase of 840,000 red blood corpuscles to cubic millimeter.

**Winkley Artificial Limbs.**—The Winkley Artificial Limb Co., of Minneapolis, are manufacturing the double slip socket limbs, which are warranted not to chafe or irritate the end of the stump. This freedom from irritation is secured by encasing the stump in a socket made over a plaster of Paris cast of the stump, shaped to fit it perfectly; this socket being made of the very best of loop leather, retains its shape for years. The inner socket is held permanently upon the stump by elastic straps fastened to the lacer or upper part when the amputation is below the knee, and by an elastic suspender over the shoulder when the amputation is above the knee.

The sockets are perfectly adjustable, each lacing in the back for amputation below the knee, and in the front for amputation above knee, admitting changes to meet the demands of a shrinking stump.

This feature is of great value, especially when is the first artificial leg worn, for during the first few weeks or months the flesh upon the stump shrinks away very much, diminishing the fleshy part or calf, and the tightening of the sockets by lacing does not in the least change the exact fit or bearing of the socket.

The Winkley Company is an ethical concern, working in harmony with the best element of the profession, and deserves the consideration of our readers.

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Many nervous troubles in women have their origin in the affections of the

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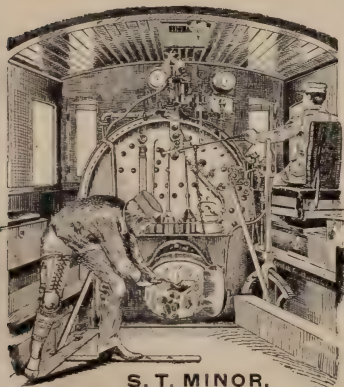
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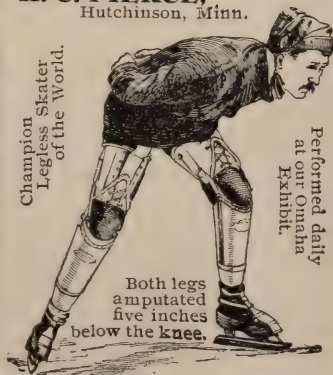
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# BONE MARROW IN TUBERCULOSIS

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## Extract of Red Bone Marrow

is indicated in tuberculosis, anemia, chlorosis, marasmus, rachitis, malaria, and all diseases dependent upon a depraved condition of the blood. Dose: One to four teaspoonfuls, well diluted, four times a day.

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